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ABSTRACT

This manual is designed to help adult educators to understand and use the Internet in teaching adult students. The manual examines what the Internet is, how one can connect to it, and how it can be used. It also describes ways to communicate on the Internet, identifies sites where information can be accessed, and explains how search tools are used. Included in the manual are 15 sample lessons that provide specific goals and objectives, identify required instructional materials and resources, and offer activities that demonstrate how the Internet assists in meeting these goals. Specific topics covered include the following: e-mail, listservs, Internet relay chat, Usenet news groups, multi-user environments, file transfer protocol, Gopher, and the World Wide Web. An appendix contains 104 online Internet resources, and a glossary defines 107 terms. (KC)

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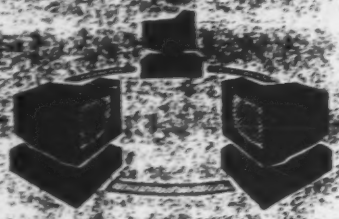
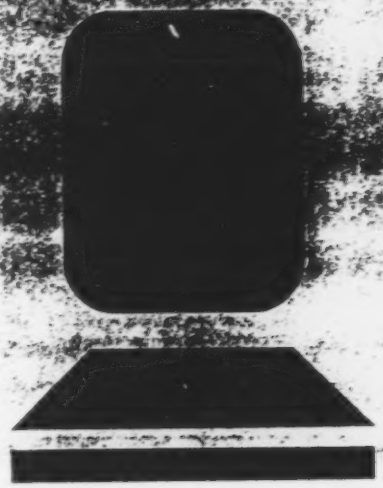


Using The Internet

As An Instructional Tool



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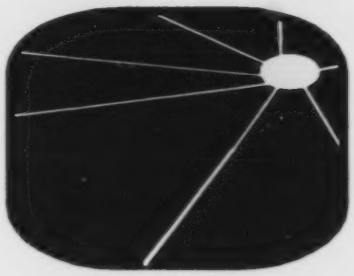

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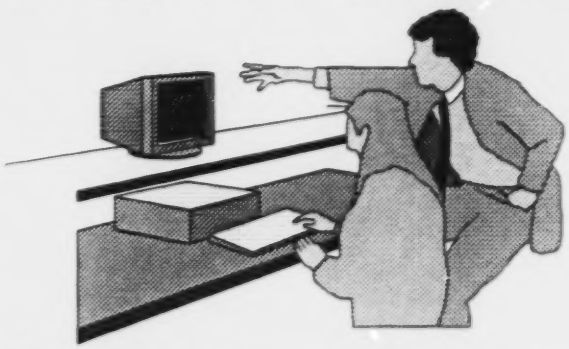
I Forward

Making the Internet Easy to Use as an Instructional Tool

Editor's note: There will never be a better time to grow with the Internet. This manual is designed to minimize your growing pains. We examine what the Internet is, how you can connect to it, and how you can use it. Also, we describe the different ways you can communicate on the Internet, identify sites where you can access information, and explain how search tools make your search for information simple. You will also find sample lessons that: provide specific goals and objectives; identify required instructional materials and resources; and offer activities that demonstrate how the Internet assists in meeting these goals.

The Internet is an important instructional tool, providing tremendous opportunities for adult educators and adult learners to communicate in ways never before possible and access information never before available. Yet, while today's children are being raised in an "on-line" culture, most adults do not know how to use the Internet. Many of us lack a clear understanding of such common terms as information highway, World Wide Web, and e-mail.



There are compelling reasons to resist embracing the Internet as an instructional tool for adult education. It requires costly computers, technological expertise, and considerable detective skills to find the needle in this haystack of information. Fortunately, these pressing issues are rapidly being addressed, because the Internet is here to stay.

The Explosive Growth of the Internet

We have entered the information age, a period that will take us far into the next century. Indeed, futurists indicate our emergence in the age of information is as significant as the advance of civilization from nomadic to agrarian to industrial societies.

Information is knowledge. But information is also very big business and the Internet is the most powerful driver for growth in information sharing. In fact, Internet-related start-up companies are stunning the financial world by going public and achieving multi-billion dollar market valuations overnight – the largest in history.

The Internet is rapidly becoming integral to virtually every industry. To prepare adults for today's competitive workplace, educators need to teach them how to use it. The Internet can open doors to countless opportunities, both professionally and personally, bringing the world to our fingertips.

Barriers to the Internet Are Coming Down

The two major reasons why the Internet has not been widely used as an adult education instructional tool are cost and complexity. However, cost is coming down and complexity is giving way to simplicity.

The Internet is more affordable than ever before. The price of personal computers has dropped dramatically and will continue to drop even as processing power increases. Recently, computers designed specifically for Internet use, known as network personal computers (NPCs), have been introduced at significantly lower prices than traditional PCs. The price of NPCs will also continue to drop.

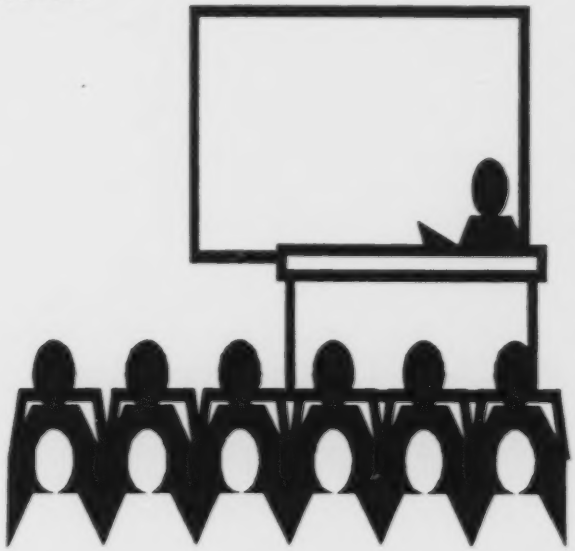
In the past, getting on and using the Internet was too complicated for widespread public acceptance. That is no longer the case. Connection to the Internet can be accomplished with easy-to-install software, most of it free. Today's new programs make navigating the Internet much simpler than ever before.

Distance Learning: Virtual Instruction – Real Degrees

The Internet gives new meaning to distance learning. It permits us to communicate to anyone else who is on the Internet, anywhere in the world. We can correspond over phone lines, by wireless transmission, in writing, by voice, with images, and even through video conferencing.

Today, hundreds of colleges and universities are offering Bachelor of Arts and master's degrees through Internet classes, providing an unparalleled degree of geographic freedom, flexibility, and cost control. In the next decade, we will see the Internet incorporated into all levels of mainstream education.

Using e-mail (electronic mail), "chat channels," and other Internet environments, educators and adult students can access information or join discussion groups on any one of thousands of subjects, from parenting to health care, sports to entertainment, current events to history, job opportunities to how to write a resume.



The growing number of Internet literacy programs is of particular relevance to adult students with limited literacy skills. These programs foster participatory literacy education. They provide an opportunity for learners not only to better use the Internet, but also to communicate effectively, think critically, explore creatively, and gain confidence in self-expression.

In addition to covering three main subjects – communication, information access, and search tools – this manual contains 15 hands-on lessons incorporating different aspects of the Internet, related handouts, a list of resources, and a helpful glossary of Internet terms. The lessons help educators teach students how to use the Internet to send information as well as to obtain data on a broad array of topics.

What Is Next?

The Internet is continuously adding new and greater capabilities. From shopping and banking, to entertainment and health care, to countless other applications, on-line services are changing our work and personal lives.

This is an exciting time for educators to embrace the Internet because it is still in its infancy. No one has been left behind. Best of all, your imagination defines the Internet's potential.

What is next? Get on-line!

II Introduction

Technology is a vital resource for educators in K-12 and adult classrooms. Because of the extensive use of computers in virtually every facet of today's society, advanced technology is influencing the classroom more than ever before. For more than a decade, computers have been used in computer-assisted instruction (CAI). Now, adult educators are being challenged to utilize the Internet in their instruction so students will be prepared to fully participate and communicate in the increasingly high-technology world of work.

Adult educators face numerous barriers to incorporating the Internet into their instructional framework. Outdated computers, lack of phone lines, and absence of modems are common complaints. Cuts in federal and state budgets require that allocations for adult education programs be reprioritized, which often places technology improvements out of reach.

How Educators Can Help

Internet technology is becoming more available as decision-makers learn more about its capabilities and prices for hardware and software become more affordable. Educators play a pivotal role in getting their classrooms on-line by:

- making administrators realize the importance of access to the Internet, and
- pursuing funding and other options for updating equipment.

These are challenging, but also exciting times for adult educators. We must make sure this excitement becomes contagious, not only to administrators and other key decision-makers, but to students. Everyone involved with adult education will benefit from the virtually limitless opportunities for communicating better and learning more through active, hands-on participation in this wonderful technological adventure on the Internet.

To keep abreast of the rapidly changing Internet developments, we, the authors of this manual, ask educators to share what they learn with one another and with us. We hope to continue to promote integration of the Internet into all adult education classrooms and other places of learning.

III Goals and Objectives

As access to the Internet becomes commonplace, adult educators are discovering a whole new world of instructional opportunities. The purpose of this manual is to introduce you to the Internet and examine ways that it can enhance instruction. This will help you:

⇒ discover how simple it is for you, your students, and colleagues to use the Internet, and learn about the growing number of Internet opportunities for instruction.
⇒ understand key words and phrases relevant to Internet use.
⇒ use protocols of the Internet to access information.
⇒ incorporate various Internet sites in classroom instruction.

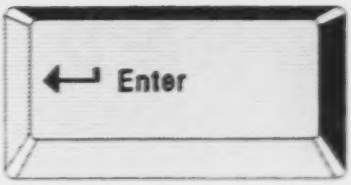
To assist you in attaining these objectives, this manual is divided into several parts, including:

- communication tools, such as e-mail
- information access, such as the World Wide Web
- search tools to help you find what you are looking for
- lessons and handouts to help you and your students use the Internet
- a glossary of common Internet terms
- a directory of literacy resources on the World Wide Web.

As you read this manual, you will come across terms that you may encounter in your travels on the Internet. Our objective is not to define and explain all Internet terminology, but rather to familiarize you with cyberspace language and place it in its proper context. While some parts of the Internet will not be used frequently by most readers of this manual, they have been included to illustrate the richness of its history and the vastness of its resources. The manual goes into greatest depth in those areas – such as e-mail and the World Wide Web – which you are most likely to utilize. For more information on Internet terminology, see the glossary prepared by Internet Literacy Consultants at the end of the manual.

IV Overview of Internet

We have all heard the Internet described as the "information superhighway," yet this phrase does not begin to suggest what kind of highway the Internet is, what direction it travels, and what destination it has. What exactly *is* the Internet? The prefix "inter" means "between" and "net" is an abbreviation of "network," thus the Internet is an interconnected network.



The Internet was made possible with the technological wonder that pulled the world out of its orbit and sent us hurtling through cyberspace – the computer. Internet users connect one computer to another, or many others, in order to transfer information – often enormous amounts of information – anywhere in the world. This transference provides a wealth of opportunities for educators, who can:

- readily access volumes of material for students and teachers,
- connect to research, policy, and practitioner communities, and
- promote creativity in the classroom.

A computer network is born whenever two or more computers are connected together to share resources. To understand the power of the Internet, consider this analogy to our written language. Random letters of the alphabet have little meaning in and of themselves. But when we combine letters so that they are, in effect, "sharing resources," we create greater entities – words. Continuing with this analogy, the more resources shared, the more words. From all these words, we can now create sentences. Suddenly there are no limits on what we can do with language. Such is the impact of connecting computers in a network.

The Evolution of the Internet

The Internet (with a capital I) evolved from the United States Department of Defense's work in wide-area networking during the late 1960s and early 1970s. Its system, the Advanced Research Projects Administration Network (ARPANet), was commissioned in 1969.

In the 1980s, scholars wanted a dedicated, worldwide network to share research information. NFSNet was created to address the needs of these educators. As ARPANet and NFSNet were connected to one another and to other networks, the concept of the Internet (interconnected networks) had arrived.[1] Today, the Internet is comprised of thousands of independent networks that are accessed by millions of people every day.

The sheer size of the Internet suggests that the whole system could be one of chaos. This is not the case. A set of rules (protocols) governs the communication and transfer of data between computers. These protocols are accepted as the standards of Internet operation and followed by its users.

This manual will focus on the three areas essential to instructional application:

⇒ communication
⇒ information access
⇒ search tools.

Educators can use knowledge gained from these areas as the foundation for more sophisticated skills involving computer technology. Mastering communication on the Internet, in particular, is a lesson teachers and students can learn simultaneously by leaving one another e-mail messages or engaging in "chats."

There are various ways to access the Internet. Other than the necessary computer hardware and software (usually, but not necessarily, an Internet browser), connection is made through telephone lines or other means to:

- Internet service providers (ISPs)
- commercial services, such as America Online, Microsoft Network, and Prodigy
- schools, business, individuals, and countless organizations.

To reach an Internet address, use lowercase letters unless otherwise instructed. When downloading files to your computer system from outside sources, check for viruses at the earliest possible moment. Most services have their own antivirus software, but it is best to check for yourself. There are numerous software

[1] Tom Lichty. AMERICA ONLINE'S INTERNET (North Carolina: Ventana Press, 1994) pp. 8-10.

programs that can be installed in your computer that automatically check for viruses.

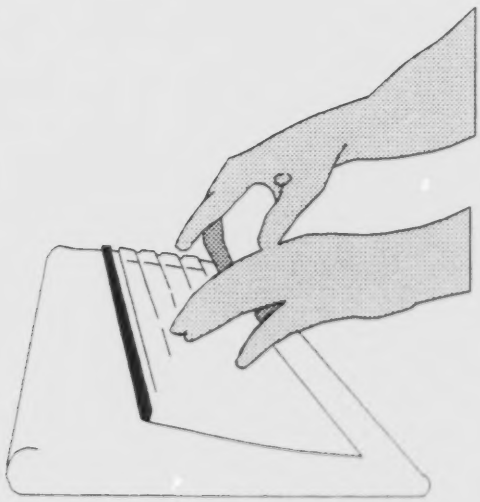
More information about the Internet is available through various Internet guides, including the ones below.

Internet Guides

Y-Life Surf School ..... http://www.zdnet.com/yil/filters/surfjump.htmi

Life on the Internet ..... http://www.screen.com/start/guide/

Zen and the Art
of the Internet..... http://www.cs.indiana.edu/docproject/zen/zen-1.0_toc.html



V Communication Tools

E-MAIL

For most new users of the Internet, e-mail is a relatively terror-free and gratifying way to test the Internet waters. E-mail is simply a way to communicate with others through computer. Not only is it easy to use, but feedback, possibly from any corner of the world, is almost immediate. E-mail keypals, the electronic equivalent of pen pals, are easily found on the Internet. Receiving keypal mail from distant lands is a great way to familiarize yourself with the Internet and to increase your knowledge and appreciation of different cultures.

For many of us, the most intimidating aspect of e-mail is its address. Everyone, it seems, is advertising an e-mail address these days, from businesses and agencies to schools and individuals. We find them in newspapers and on radio and television. To the novice, they can seem like a foreign language with their string of characters connected by dots and the "@" symbol.

The fact is that an e-mail address is considerably shorter than the address you put on a letter, yet with a letter, we know how and where to identify a person's name, title, company, street, city, state, and zip code. With e-mail, your mailbox is your computer. There is no last pickup at 5 p.m. Your e-mail "post office" is always open and ready to deliver mail. You will grow more comfortable when you understand what the components of an e-mail address are.

An e-mail address is made up of two main parts: the user name (which is comprised of letters and/or numbers which, typically, you select) and the Fully Qualified Domain Name (FQDN or "domain"). These two parts are joined with the "@" sign. For example, in janedoe@account.abcagency.org, the user name is "janedoe" and the domain is "account.abcagency.org." E-mail addresses usually end with the type of organization sending the correspondence.

Types of organizations include[2]:

⇒ edu	educational sites in the U.S.
⇒ com	commercial sites in the U.S.
⇒ gov	U.S. government sites
⇒ net	network administrative organizations
⇒ mil	U.S. military sites
⇒ org	U.S. organizations that do not fit into other categories, e.g., not-for-profit
⇒ ca	Canada (each country outside the U.S. has its own country code)

E-mail addresses are used to send/receive messages and to import/export special objects into a message. Most e-mail programs allow users to save and print incoming mail, reply to messages, and attach a downloaded software file in a mail message[3]. Content of e-mail is primarily textual, thus a tremendous amount of data can be transmitted.

E-mail is the most popular and frequently utilized tool of communication on the Internet. It is offered in a number of ways, some of which provide free access, most of which involve hourly and/or flat rate fees. Larger servers – such as America Online, Compuserve, and Prodigy – have offered e-mail for years. E-mail is also available through local servers, as part of a Web browser (e.g. Netscape, Internet Explorer, Mosaic), or through other software used to access the Internet.

E-Mail: Suggested Instructional Activities

Writing

Adult learners e-mail to anyone in the world who has access to e-mail, for example:

- another adult learner in the class or program
- the editor of an online newspaper

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[2] Patrick Douglas Crispen.ROADMAP (Tuscaloosa: University of Alabama, 1994). From http://www.acm.usl.edu, see MAP 04: E-mail.
[3] Ibid.

- a keypal from another country or another program in the area
- an e-mail address heard on radio or television.

Sending multiple copies of e-mail

Adult learners send a single letter to several people. It is fun to discover new e-mail addresses and record them in an electronic address book (available in most e-mail software), then send a copy of the same letter to multiple addresses.

Writing poems or short stories for others

Adult learners compose poems, short stories, essays, and journal entries, then send them as e-mail to a keypal, a contest, a magazine, or a friend.

E-mail: Resources

A Beginner's Guide to Effective E-mail.... http://www.webfoot.com/advice/email.top.html/

E-mail Etiquette .....http://www.iwillfollow.com/email.htm/

LISTSERVS

Listservs are a more sophisticated version of e-mail. Listservs are the Internet version of a magazine subscription. E-mailers can subscribe to a specific "list" which provides electronic conferencing among individual e-mail users with common interests. Typically, listservs focus on a single, general topic.

Messages sent to a listserv are distributed to everyone who has subscribed to that list. Listservs may be moderated (monitored) or unmoderated. They are available as individual messages, digests (collections of messages sent out periodically by a list administrator), and archives.

Listservs vary greatly in the volume of mail they generate. While some produce only a few messages a week, others yield 100 or more messages a day. When subscribing to listservs, it is a good idea to start with only one or two until you have had a chance to determine the volume of mail you are receiving.

BEST COPY AVAILABLE

Listservs are usually free and open to anyone who wants to subscribe. Many of them have national or international memberships of thousands of people. You can discover listservs on practically any topic (including adult education) by word of mouth, "surfing the net," and consulting Internet white and yellow pages with your browser. Once an address of interest is located, it is relatively easy to subscribe by sending a special message to the listserv. When subscribing, users should note the procedure for canceling membership in the event they no longer wish to participate.

A number of listservs focus on adult literacy topics. While most provide information of interest to adult educators, some are specifically for adult learners. Some of the listservs[4] you may wish to consider for yourself and/or your students are:

Learning Styles Theory and Research ..... listserv@sjuvm.stjohns.edu
SUBSCRIBE EDSTYLE

Global Classroom ..... listserv@cunyvm.cuny.edu
SUBSCRIBE GC-L your name

Literacy Listserv for Instructors and Adult Learners ..... listserv@nysernet.org
Adult literacy issues ..... SUBSCRIBE LITERACY your name
Adult learners/keypals (pen pals) ..... SUBSCRIBE LEARNER your name

Educational Potential of the Internet ..... listserv@nic.umass.edu
SUBSCRIBE EDNET

Teachers of English as a Second Language ..... listserv@cunyvm.cuny.edu
SUBSCRIBE TESL-L

Adult Numeracy Practitioners' Network (ABE/GED math) .... majordomo@world.std.com
SUBSCRIBE NUMERACY your e-mail address

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[4] Bobbi Lemme and Teri Donovan. LESSONS ON USING THE INTERNET (Washington: Skagit Valley College, 1995) pp. 23-25.

Vocserve Forum for Integrated Academic and Vocational Curriculum ..... listserv@cmsa.berkeley.edu
SUBSCRIBE VOCSERV your name

Teachers in Prison Programs ..... listserv@dartcmsl.bitnet
SUBSCRIBE PRISON-L

Employment Training and Literacy ..... listserv@psuvm.bitnet
SUBSCRIBE TECHED-L

Behavior Problems with Children ..... listserv@asuacad.bitnet
SUBSCRIBE BEHAVIOR your name

Kidcafe for Children Ages 10-15 ..... listserv@vml.nodak.edu
SUBSCRIBE KIDCAFE

Listservs: Suggested Instructional Activities

Join a listserv

Adult learners identify listservs they would like to join. Once they have joined and contributed to a listserv, each learner summarizes the "conversation" for a period of several weeks or more. Be sure to monitor the listservs selected to make sure the text is appropriate for the literacy levels of the learners. (Do not forget that a listserv may generate hundreds of messages a day.)

Set up a mailing list

Using the e-mail address book function, several adult learners set up a mailing list and communicate among themselves about a specific issue. Group members present their experiences and observations to the class. Creating your own listserv requires experience, so make sure you have someone knowledgeable about the Internet available to help.

Listservs: Resources

E-mail Discussion Groups ..... http://alabanza.com/kabacoff/Inter-Links/start.html

Tile.Net/Lists — The Reference to Internet Discussion Groups ..... http://tile.net/listserv/

INTERNET RELAY CHAT (IRC)

Internet relay chat (IRC) is a multi-user system where people meet in real time on "channels" (in virtual "chat" rooms) to discuss designated topics. With direct client connection (DCC), users may also hold private conversations and transfer files on IRC. Thousands of chat channels exist, covering a myriad of topics. If you cannot find one that suits you, you can create your own IRC channel.

IRC channels are controlled by channel operators, who determine who is and is not allowed to participate on a given channel. If you create your own channel, you will be the channel operator. IRC networks register certain channels and provide automated programs for channel security called bots.

Like other communication tools on the Internet, IRC is constantly evolving, growing in its number of channels and participants. There are many Internet relay chat networks, including EFnet, DALnet, and Undernet. To use IRC, you need an IRC client (software program) and a basic knowledge of IRC commands. Some IRC networks permit access to chat rooms through Telnet.

IRC: Suggested Instructional Activities

Identify channels and gain experience using IRC

Adult learners identify a channel of interest. For example, there are many channels about different health issues. Each learner chooses a channel on a particular health issue, keeps track of what is being learned, writes an essay about the health issue, and then presents it to the class. Caution learners that the text comes on the screen quickly and not necessarily in chronological order. For example, the first person may ask a question, but before it can be answered, the second person's comment will appear on the screen. Depending on the number of channels participating, it can be akin to a room full of people all talking at once. Learners should expect to feel rushed at first; almost everyone does. The class may wish to include this information in a health resource manual which can be distributed to the rest of the adult learners. Other possible topics include: parenting, sports, hobbies, movies, other countries, and pets. (As your class learns more about

channels, they will discover there is something of interest for everyone.)

Set up a channel

Adult learners establish their own channel to communicate with one another. There are a number of instances when this is not only fun, but helpful. Your class could use a chat channel to prepare for a math exam, for example, or conduct a student council meeting. Learners in different buildings can chat with one another.

IRC: Resources

EFnet IRC Help Home Page ..... http://www.irchelp.org/
Internet Relay Chat FAQ ..... http://www.kei.com/

USENET NEWSGROUPS

Usenet newsgroups provide another way to participate in group discussion on the Internet. Newsgroups differ from listservs because they are not conducted through e-mail and they require newsreading software. Articles or messages are "posted" by participants and broadcast to others in the newsgroup. As with listservs, many thousands of newsgroups exist, focusing on a wide array of topics. Newsgroups are classified hierarchically by subject and generally can be identified by named prefixes. Examples include:

- comp computers and computing
- sci scientific and technical topics
- rec recreation
- soc social issues and political discussions
- biz commercial services, advertisements
- alt alternative groups

A newsgroup called "sci.med.aids" would focus on precisely what its name suggests – AIDS. It is categorized under science, subcategorized under medical, and specifically identified under AIDS.

Usenet newsgroups often generate huge volumes of messages every day. If you decide to join a newsgroup, it is a good idea to observe before you actively participate. Many newsgroups have guidelines for posting information. By remaining a silent observer for a while, you can better determine if this is a newsgroup right for you.

Usenet Newsgroups: Resources

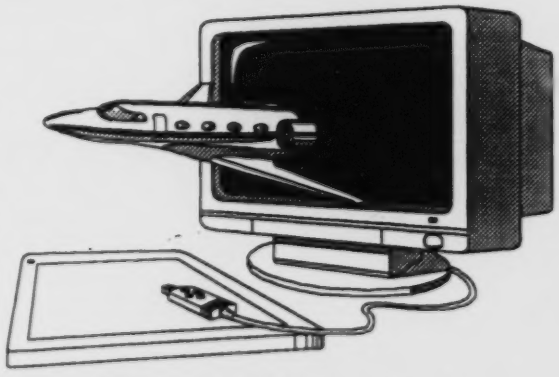
What Is Usenet? ..... http://www.tezcat.com/~abbyfg/faq/what-is-usenet.html/

Usenet Info Center Launch Pad ..... http://sunsite.unc.edu/usenet-i/

MULTI-USER ENVIRONMENTS: MUD, MOO, MUSH and MUSE

Multi-user dungeons or dimensions (MUDs) are simulated environments that allow users to interact in real time. MUDs can be used for many recreational and informational activities – everything from role-playing games, such as Dungeons and Dragons, to educational endeavors, such as virtual community building.

In a MUD, characters interact with one another, move from room to room, and build rooms and objects for other characters to use. To effectively participate in this environment requires a basic knowledge of MUD commands. You can connect to a MUD with Telnet or a more specialized client program.



MOOs (MUD object-oriented environments), MUSHes (Multi-User Shared Hallucinations), and MUSEs (Multi-User Simulated Environments) are other simulated, interactive environments similar to MUDs. They are all being used by educators to create virtual campuses and communities.

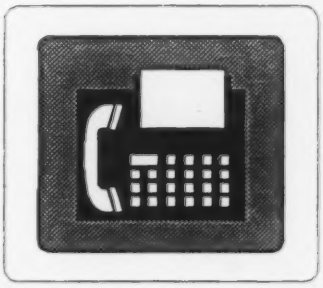
MUD (and MOO, MUSH, MUSE): Resources

Diversity University ..... http://www.du.org/

MOO Central ..... http://www.pitt.edu/

OTHER COMMUNICATIONS TOOLS

Internet Telephony



Internet telephony has the potential to revolutionize telecommunications. It utilizes audio conferencing programs which, when properly configured on both ends, allow one to use the Internet as a telephone service. Internet telephony works by digitizing speech, sending the digitized data over the Internet, and then converting it back to speech on the other end. With the proper setup and connection, lag time between sending and receiving speech files is minimal.

Internet Telephony: Resources

Virtual Voice ..... http://www.virtual-voice.com/

FAQ: How Can I Use the
Internet as a Telephone? ..... http://chat.northcoast.com/

Real Audio

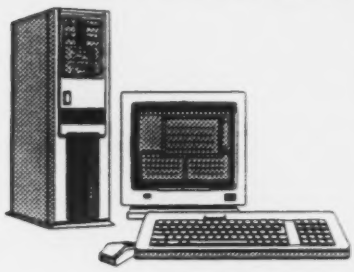
Real audio is an Internet tool which enables users to listen to live or recorded broadcasts over the Internet.

Real Audio: Resources

Progressive Networks ..... http://www.realaudio.com/

VI Information Access

The excitement of the Internet does not end with your ability to communicate electronically with other individuals and groups. By using access tools, educators and students can obtain incredible quantities of information, including text files, software programs, pictures, and music. Educators and students can use the Internet to tap into research data bases, go into libraries worldwide, and download software applications to expand the capabilities of their computers as well as peripheral equipment, such as printers and scanners.



FILE TRANSFER PROTOCOL (FTP)

File transfer protocol (FTP) is one way to send and receive files from other computers. A major advantage of FTP is that it grants quick access to files stored on distant computers. In addition to downloading files, users of FTP can view directories of files on distant computers that have FTP capability.

Anonymous FTP is an excellent method for retrieving documents, text files, programs, and other archived data. The federal government uses this option to provide open access to specific sites. An e-mail address is given for access.

Free or inexpensive software can be obtained through FTP. Freeware is public domain and, therefore, free. Authors of shareware often provide a free copy of their software on the condition that they will be compensated should the software be kept and used.

Freeware, shareware, and most large downloadable files are typically found as .exe or .zip files which are compressed. Files are compressed so that they download quickly and take up less space on a hard drive. Generally, files with the .exe extension are self-extracting files, and files with the .zip extension require extracting with a version of pkunzip.exe. Any questions regarding appropriate technique should be addressed to experienced technicians.

How quickly you receive the information you request depends on:

⇒ the electronic capacity of the link between client and server,
⇒ the speed and quality of the computer equipment being used, and
⇒ the amount of traffic on that link.

It is considered good "nettiquette" to use FTP during less busy hours of the day, since FTP ties up multiple systems. Always remember that when downloading a file, it has to go somewhere on your machine. Plan ahead by creating a place for it to go, such as c:\download, or by knowing where your browser places downloaded files.

GOPHER

Gopher is a client/server "directory" for finding and retrieving resources on the Internet. The original Gopher was developed at the University of Minnesota, and many local Gophers are based on that prototype, which involves a series of nested menus. Users browse through a hierarchy of menus until they arrive at an item they wish to obtain. Gopher retrieves the file and allows users to read it. Although parameters can be established to facilitate a search, some users feel that Gopher is best used for wandering (browsing) the Internet, not actually searching for something specific.

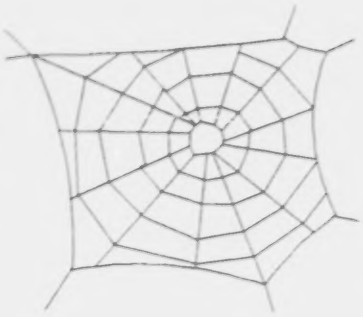
Each Gopher server stores the directories of sites deemed of interest to users of a particular system (e.g., the University of Minnesota). Thousands of Gopher servers exist and are collectively known as "gopherspace." The two ways to enter gopherspace are through:

- a Gopher client running on a user's local Internet service provider's machine,
- e-mail[5] (Gopher mail allows users to have any text document on a Gopher server sent to an e-mail account).

[5] From ROADMAP 19: Gopher (Part Two)

WORLD WIDE WEB

When referring to the Internet, many users and non-users mention the World Wide Web in the same breath. The World Wide Web (WWW, W3, or the Web) is an information access tool which is highly touted in almost every forum today. Much of the excitement surrounding the Web stems from its user-friendliness. It opens up a world of exciting possibilities. Web users can readily obtain information on practically any subject: today's headlines, the latest software, sneak previews of concerts and movies, shopping, educational support on just about any subject, and much more.



Even small organizations are using home pages as a marketing tool for services and products. Some sites are wonderfully altruistic while others are tiresomely commercial. Also, Web sites change often, which can be a frustration. Hands-on experimentation is perhaps the best way to discover the strengths and pitfalls of the Web.

The World Wide Web is defined by one source as a "distributed hypermedia system that uses client/server system technology to conduct hypertext searches." Facing this definition, many new users of the Internet feel like they have mistakenly cracked open a graduate school textbook instead of the *Dick and Jane* primer they need. Fortunately, we can simplify this definition quite a bit.

First, let us consider a hypertext search. Hypertext imitates the cross-reference system you would find in a library. Hypertext is any text that contains links to other documents or sites. These links are words or phrases in a document that, when selected by users, cause another document to be retrieved and displayed.[6] For example, the New York State Education Department's (NYSED's) Web site includes a link to Hudson River Center for Program Development's (HRCPD's) Web site. When users visit NYSED's site, they can learn about HRCPD simply by clicking on the highlighted (usually colored) words "Hudson River Center for Program Development." In a matter of seconds, they are viewing HRCPD's Web site.

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[6] Internet Literacy Consultants. Glossary of Internet Terms at http://www.matisse.net/files/glossary.html. Page 5.

The World Wide Web is a tool that uses hypertext links to communicate through and retrieve information from remote computers.

Now let us turn our attention to the other half of that graduate school definition of the Internet. Hypermedia is a superset of hypertext. While hypertext contains links to other documents, hypermedia contains links to other media, such as images, sounds, animation, and video. Users might consider hypermedia a fancier version of hypertext since it can display both text and pictures. Plug-ins, which are add-ons to browsers, introduce a vast array of media techniques far beyond a browser's basic capability.

With this in mind, the World Wide Web can be more simply defined as a locally-based tool that allows browsing on the Internet by selecting highlighted links to other documents.

Now that you know what the Web is, you need to know how to access it. Web browsers, such as Netscape Navigator and Mosaic, use a special coding language, Hypertext markup language, to assist users in finding and retrieving resources on just about anything.

Some of the more common acronyms you will encounter are:

⇒ HTML	Hypertext markup language is the special coding language used by Web browsers.
⇒ HTTP	Hypertext transport protocol is the protocol for moving hypertext files across the Internet.
⇒ URL	Universal resource locators are the unique addresses of resources on the Internet.

An example of a URL is http://www.hudrivctr.org. URLs are made up of two parts. The first part, before the colon — "http" in the example — tells the browser how to access a particular file. The second part, following the colon — "//www.hudrivctr.org" — is the address of the particular file.[7]

[7] ROADMAP 23: WWW, p. 2

The most common access methods (i.e., the first part) are abbreviated:

- ftp — file transfer protocol
- news — Internet news protocol
- Gopher — Gopher
- Telnet — Telnet
- http — hypertext transport protocol

While all this terminology may seem overwhelming, navigating the Web is made much easier with the use of search tools, which will be discussed immediately following Web instructional activities.

World Wide Web: Suggested Instructional Activities

Exploring URLs

To become comfortable connecting to the Web, each adult learner identifies a URL from a magazine, newspaper, or television program, then connects to the corresponding Web site. Learners exchange URLs and repeat the process. Based on this exercise, they should understand the meaning of com, org, edu, and gov as part of a URL.

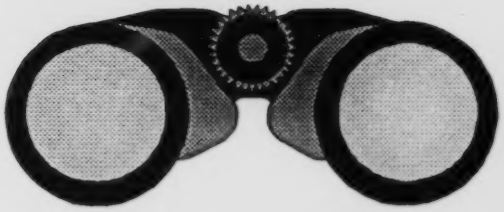
Researching on the Web

Each adult learner is assigned a single word topic to interpret. The students learn about their topics from the Web and write an essay upon completion of the research.

From world-wide newspaper articles, learners choose one country to explore. Using the Web, students compile significant facts about the country: capitol, type of government, head(s) of government, current problems, and natural resources.

In preparation for a group presentation, small groups of adult learners choose a topic of interest and thoroughly research it on the Web. Their presentation should include a step-by-step description of how the group used the World Wide Web in their preparation.

VII Search Tools



Anyone in the adult education field — teacher, administrator, counselor, researcher, or student — can obtain untold amounts of information by accessing databases. It is common for new users to feel intimidated by the mass of information available on the Internet, much as readers would be overwhelmed if presented with all the world's languages and alphabets. One should not forget, however, that no one is suggesting that you learn everything on the Internet. You are the one who chooses how much you wish to access and assimilate. Even so, finding the right paths to your areas of interest can be a daunting task.

Fortunately, search tools are available for users to easily negotiate the Internet and find exactly what they seek. Most Web browsers currently available provide access to these electronic tools, which are often referred to as search engines. Search tools allow users to plug in keywords that are then used to locate sites on the Web. The keyword may be a single word, a phrase, or other series of words. Depending upon the engine you have chosen, you will access (1) a list of articles, (2) the articles themselves, or (3) data bases.

Search tools open up endless research opportunities. You can employ search tools to locate such information as:

- people's e-mail addresses
- street locations, precisely pinpointed on maps
- long-lost relatives or friends
- side-effects of the latest medicines
- historic sites from around the world.

The list goes on and on because you literally have the resources of tens of thousands of libraries, newspapers, and other information sources at your fingertips.

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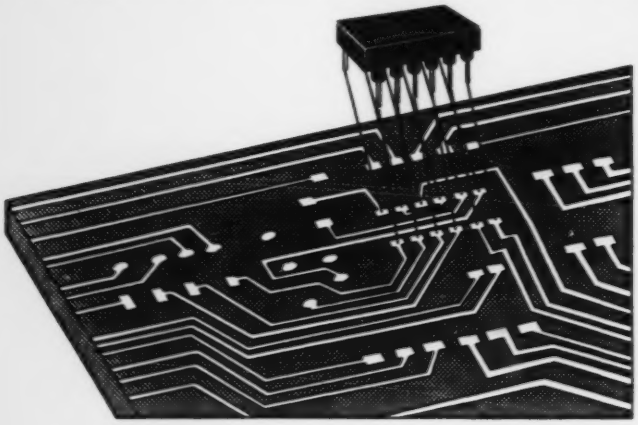
There are many search engines. Some of the most popular are:

Yahoo	**http://www.yahoo.com**
Lycos	**http://www.lycos.com**
Metacrawler	**http://www.metacrawler.com**
Excite	**http://www.excite.com**
AltaVista	**http://www.altavista.digital.com**
InfoSeek	**http://www.infoseek.com**
Webcrawler	**http://www.webcrawler.com**

Search tools such as Gopher, which is accessed using modem software and a telephone line, are menu-driven. Although much less frequently used than other search tools, these tools will help you maneuver through gopherspace.

Veronica (Very Easy Rodent-Oriented Netwide Index to Computerized Archives) is a searchable database of Gopher server menu items. Users enter a word or keyword phrase, then Veronica creates a custom menu of all titles on all menus from all Gopher servers.



Jughead, the acronym for Jonzy's Universal Gopher Hierarchy Excavation And Display, provides the same capabilities for a more confined area of gopherspace or specific site. Archie contains search tools for anonymous FTP sites. Finger is a software tool for locating people on other Internet sites.

Another less utilized mechanism is WAIS (wide area information service). It is a search and retrieval system jointly developed by Apple Computer, Dow Jones, and Thinking Machines. Whereas Gopher, Veronica, and Jughead search file names, WAIS searches file *contents*. Using WAIS, an entire document is searched for a word or words specified in the search criteria. The findings are ranked based on the number of times the word(s) appears in each document.

While using search tools can be interesting and challenging, it can also be frustrating. Learners may find that accessing related web sites, which, in turn, link to other sites, is more fruitful for certain kinds of searches. [See Appendix A, *A Directory of Adult Literacy, ESOL, and Nonprofit Resources on the Internet*, prepared by the Literacy Assistance Center.]

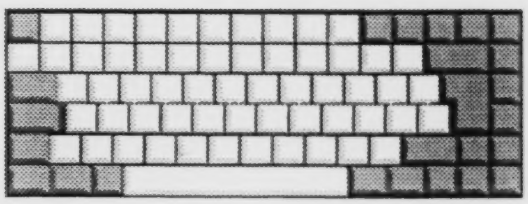
Search Tools: Suggested Instructional Activities

Working with search tools

Adult learners spend a half hour or more working on search tools, initially using a single word or name when researching a topic. To clarify the search, learners use additional words or names.

Roots

Learners choose a keyword to search for information about their ancestry. Suggested keywords are: race, ethnic background, country of origin, birthplace, family names, family tree, customs, and significant events. Students will list information related to their roots and write a story about themselves and/or their families.



VIII Conclusion

Internet technology is advancing at lightning speed. However, too few people have paused long enough to figure out how to apply it. When technology surges ahead of our ability to assimilate it, that is the time when many of us put it at arm's length. Yet we cannot ignore the Internet, for it is spearheading a revolution in how we communicate and share information.

In this manual, we have examined the basic elements of the Internet that can be readily grasped and put to practical use. We have discovered a form of written correspondence that can eliminate paper, postage, and traditional delivery, yet arrive at its destination almost instantly. We have found a new path, actually a myriad of paths, to information that we could not access without the Internet. We have also identified the search engines that assist us in communication and information access.

We hope this manual will help you use the Internet, not only for designing your instruction, but expanding your capabilities as a teacher versed in the technologies that will dominate the 21st century. While many facets of the Internet are still complex, it will continue to become more and more user-friendly. Whether you take a tentative baby step or a full sprint into the Internet, you will find your journey exciting and rewarding.

IX SAMPLE LESSONS

Sample Lesson 1 Cultures Around the World

Sample Lesson 2 Immigration to the United States

Sample Lesson 3 Planning a Trip

Sample Lesson 4 Keeping Your Favorite Web Sites at Your Fingertips

Sample Lesson 5 News Alert!

Sample Lesson 6 News for Busy Parents!

Sample Lesson 7 A Family Affair

Sample Lesson 8 AIDS and HIV: The Latest!

Sample Lesson 9 Resumes and Cover Letters

Sample Lesson 10 Jobs A – Z

Sample Lesson 11 Job Search in Cyberspace

Sample Lesson 12 Learning Disabilities – Getting Help

Sample Lesson 13 The Internet – It's More than for Research

Sample Lesson 14 Math Mirth

Sample Lesson 15 Fun with Wiggle Word Puzzles

Sample Lesson 1: Cultures Around the World

Goal: To familiarize students with various aspects of cultures around the world.

Outcome Objectives: Learners will:

- Access information about a specific culture from a web site.
- Synthesize information about that culture in a class presentation.

Instructional Materials & Resources:

- Access to Internet with modem speed at least 14400 baud, http://artsedge.kennedy-center.org
- Flip chart, markers, colored paper, crayons, old magazines, etc.
- Handout A (Note that all handouts are included after the last sample lesson.)

Activity 1: Learners form teams of at least 4 adult learners. From the above Internet site under For Students and then under Student Research Page, each team selects a country to research its art: Japanese, Latin American, Chinese, African, Native American, or Indian. Each culture displays visual arts, performing arts, crafts, and arts and culture. The arts and culture page provides information about language, history, and historic figures. Teams choose a facilitator to organize the process. Information can be recorded on Handout A and newsprint.

Activity 2: Based on the information gathered on Handout A, each team organizes a class presentation. Depending upon the length of the activity, learners can augment their presentations by soliciting material from their families, libraries, community centers, churches, restaurants, and other cultural centers. Thus, this presentation can include such items as written material, drawings, collages, sound, costumes, and food.

Activity 3: Once each team presents their culture, suggestions are elicited on how the information can be preserved, and even augmented for display in the building or neighborhood.

Sample Lesson 2: Immigration to the United States

Goal:	To consider the effects of immigration on both immigrants and native people.
Outcome Objectives:	Learners will: ➢ Examine immigration statistics and data. ➢ Illustrate opinions with backup information. ➢ Recommend action based on discussion and research.
Instructional Resources & Materials:	⇨ Access to Internet http://www.fairus.org/ http://www2.wgbh.org/mbcweis/immigrants.html

Activity 1: Accessing the Federation for American Immigration Reform web site (the first of the two noted above), small (2-3) groups of learners will choose a geographic region: Europe, Asia, Americas, Africa, or Oceania. Learners may choose a region based on personal or genealogical ties.

For the chosen region, learners will review the numbers of immigrants for each decade between 1821 - 1995. They will record their answers to:

Which decade had the lowest number of immigrants from that region?
Which decade had the highest number of immigrants from that region?

Small groups of learners share their observations with the larger class to compare the numbers of immigrants from other regions and to discuss why numbers of immigrants might have been higher or lower during certain decades.

As an individual activity, learners compose essays that address these questions:

What decade did you or your ancestors come to the United States?
Did many or few immigrants come to the United States during that decade? (Learners should consult web site.)
Why do you think these immigrants came to the United States?
Why did you or your ancestors come to the United States?

Activity 2: Learners prepare for a class discussion or debate by contemplating and considering various viewpoints on immigration. To start the process, learners access the Immigration Quiz and Poll on Immigration on http://www.fairus.org/. After answering the 10 questions on this immigration quiz/poll, learners compare their views on both legal and illegal immigration with views registered in national polls over the past few years.

As the second phase of their research (or for a different discussion/debate if instructor feels the amount of materials warrants it), learners access the same web-site and click on Immigration Issues. From here, learners click on Menu of State Papers, and finally on Menu of State Issues. This page describes the state and local impact of immigration and key issues for each state. Learners can either look up issues for their own state or look up other states' issues.

Based on their research, learners will participate in a class discussion/debate on immigration. Instructor might facilitate discussion/debate by asking:

Does the United States welcome immigrants? Why or why not?
Would learners advise their friends or relatives to come to the United States? Why or why not?
To what region or state of the United States would learners recommend future immigrants resettle? Why?

If learners are impassioned about a certain current issue, instructor might suggest a concluding activity of e-mailing (or otherwise sending) their views to policymakers such as the President (president@whitehouse.gov) or to their local senator or representative.

Activity 3: Pairs of learners go to http://www2.wgbh.org/mbcweis/immigrants.html to access The Immigration Superhighway, which lists topics of importance to immigrants. Each pair picks a topic to present as a role play to the class. One learner serves as the immigrant; the other learner serves as a counselor or advisor describing how to accomplish a task. Tasks might be to:

- reunite families of immigrants
- extend visas
- get permission to work in the U.S.
- become a permanent resident.

Sample Lesson 3: Planning a Trip

Goal: To encourage learners to learn about countries and cultures around the world.

Outcome Objectives: Learners will:

- Explore a region or country of interest to them.
- Compare and contrast expectations with data.
- Plan their ideal visit to site of choice.

Instructional Materials & Resources:

- Access to Internet
  http://www.city.net/

Activity 1: Learners will write a short essay in which they identify a country or place they wish to visit. The essay should include why the learner wishes to visit this place, expectations of the area (What is it like? What is the weather like? What activities are there?), and how to get there.

Activity 2: Learners will explore the Internet site above (and other applicable links) to learn more about the country or area they wish to visit. Learners will take notes on what they are surprised to learn and what confirms their previous thoughts about the country or area. Learners revise or add to their essays from Activity 1, incorporating what they have learned from their exploration on the Internet.

Activity 3: Learners will plan a dream trip to their destination by accessing the Internet. Using search engines (such as Yahoo or Lycos), learners will be able to design very detailed plans, including:

- Transportation
  Learners can consult airline web sites to find the best price for a ticket, best flight arrangements, etc.
- Itinerary
  What will they do there? What tourist attractions are "must-sees"?
- Packing
  What clothes and other supplies will they need?
- Time
  Based on weather and proposed activities, when is the best time to go?

Sample Lesson 4: Keeping Your Favorite Web Sites at Your Fingertips

Goal: To organize favorite web sites into an on-line directory.

Outcome Objectives: Learners will:

- Become familiar with various search engines and how to access specific information.
- Locate sites on the World Wide Web.
- Organize sites into a directory for later use.

Instructional Materials & Resources:

- Access to Internet
- Browser (such as Netscape Navigator) that uses bookmarks
- Handouts $B^1 - B^3$

Activity 1: Instructor discusses various search engines (such as Yahoo, Magellan, Lycos, Webcrawler, Excite, and Infoseek), their purpose, how to use them, and the importance of using several for a specific search. Depending on class experience, instructor may wish to demonstrate a search.

Activity 2: Learners divide into teams and use Handouts B^1 - B^3 to play "Internet Bingo." Surfing the net by either address or subject, they find sites listed vertically, horizontally, or diagonally on the handout. Learners record either the address or the subject of the located site on handout.

Activity 3: Using a browser that features bookmarks (such as Netscape Navigator), learners construct their own directories for the Internet. If using Netscape Navigator, for example, learners construct bookmarks by following these steps:

1) Access web site of choice
2) Click on bookmarks
3) Click on add bookmarks
4) Click on bookmarks again
5) Click on go to bookmarks
6) Open the file folder in which to place the web site by clicking twice on that file folder's icon
7) Move to the bottom of the page
8) Highlight new file. "Click and drag" the file to the file folder icon opened in step (6). When button is released, the web site address will now appear as a bookmark in that file.

Activity 4: Learners explore other classmates' bookmarks to locate interesting sites. Instructor may wish to lead a discussion on the advantages of keeping track of favorite web sites by bookmarking rather than manually writing down each address.

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Sample Lesson 5: News Alert!

Goal: To promote learners' awareness of current events.

Outcome Objectives: Learners will:

- Recognize newsworthy items.
- Investigate stories on a current event.
- Practice comprehension and teamwork skills.

Instructional Materials & Resources:

- Access to Internet
  http://www.cnnsf.com/
- Current newspapers, magazines, newsletters, and other sources of news

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Activity 1: As a homework assignment, instructor asks learners to look for headline news items on television or radio, or from newspapers and magazines (new readers might identify a news item by looking at pictures). Learners bring topic (hard copy when possible) to share with class. Instructor groups or pairs learners, possibly by learners' similar news items. Groups/pairs work together to answer, with the information on hand, the following: how, who, why, when, and where.

Activity 2: Learners seek additional information about their news item by accessing the above web site. If the news item is not the CNNSF Story of the Week, learners should also look in the CNNSF News Media Vault or in CNN Interactive. After locating the news item, learners again ask the five questions from Activity 1. If learners cannot find their news item on this particular site, they may wish to use a search engine to locate other applicable sites. (Instructor should be prepared to help low-level readers with potentially sophisticated reading levels on other sites.)

Activity 3: On the web site noted above, learners (working individually or in pairs) click on Interactive Learning Resources to find a "Featured Story" which is abbreviated, outlined, and edited for easier reading. After reading the story, learners choose a minimum of three activities to complete: Vocabulary, Select a Word, Multiple Choice, Show & Tell, Conclusions, and/or Sequencing.

Activity 4: As a class, learners brainstorm an idea to submit to the above web site's Story Idea. Instructor may choose to present this activity as a class project in which learners identify project steps, set timelines, and assign roles. For example, learners might brainstorm ideas, research story ideas, compose idea submittal, send submission, and follow up. If the story is not selected, learners could complete the project by writing the news item themselves.

Sample Lesson 6: News for Busy Parents!

Goal:	To be informed about issues affecting families.
Outcome Objectives:	Learners will: ➢ Excerpt information on family issues from a web site. ➢ Synthesize information about family issues on a flyer for distribution to the entire program.
Instructional Materials & Resources:	⇨ Access to Internet http://www.family.com/categories/parenting/ ⇨ Writing materials ⇨ Handouts C and D

Activity 1: Learners access the above web site. One of the learners volunteers to set up a schedule for pairs of learners to access the site and gather information about issues important to parents. Daily or weekly access would probably be most effective.

Activity 2: On Handout C, assigned learners record the most important information related to parents and children in that particular issue. They then design a flyer to pass out to the class for their information and discussion.

Activity 3: In some cases, learners may wish to take action. For example, if there has been a recall of a popular toy or article of clothing or if a very relevant health and safety tip has been published, flyers may have a much broader distribution. They might be distributed to the entire program, the local schools and community centers, libraries, local radio stations, and churches.

Activity 4: Learners send e-mail information on flyers to keypals and post it on listservs or Usenet newsgroups.

Sample Lesson 7: A Family Affair

Goal: To facilitate the use of technology as a learning tool by families.

Outcome Objectives: Learners will:
- Identify children's interests and learning styles.
- Recognize family-oriented learning opportunities.
- Organize an instructional activity.

Instructional Materials & Resources:
- Access to Internet
- Various supplies, such as: construction paper, safety scissors, markers, and tape recorders.

Activity 1: Learners will recall recent discussions with their children or activities in which their children engage that reveal the children's interests. One learner will share his/her child's interests, and, as a class, learners will brainstorm activities around this interest. For example, a child may have taken an interest in animals. Activities might include:
- visiting a local zoo
- going to a local farm
- checking out books on various kinds of animals from libraries
- watching movies featuring animals, such as *National Velvet* or *Flipper*.

Activity 2: Using the brainstorming list from Activity 1 as an example, each learner makes a list of activities based on his/her child's interests. As a homework assignment, learners sit down with their children to pick an activity in which both parent and child are interested. Learners do activity with their children and report their observations back to the class:

What did the child seem to enjoy the most?
What bored the child?
What questions did the child ask?

As a follow-up to this sharing, instructor leads a brief discussion on learning styles, mentioning that everyone has certain preferences of learning, such as visual, auditory, or hands-on. A child who races past the text and displays of a zoo to get to the petting area may be more of a kinesthetic (touching or feeding an animal) learner than a visual learner (reading the text).

Activity 3: Based on their thoughts of how their children best learn, parents organize and carry out an instructional activity that involves some type of technology, such as computers (surfing the web, word processing), telephones, or tape recorders. Learners might also have to utilize technology to set up the activity.

In our example, the parent of a child who is a visual learner might arrange for the child to come to the classroom and explore various sites on the Internet regarding animals.

(technology used: computer)

The parent of a child who prefers to work with others might arrange for the child to interview a farmer, a veterinarian, a zookeeper, or anyone else who works with animals. Parent and child could then work together to produce a mock newsletter or radio program featuring the interviews.

(technology used: telephone, tape recorder, word processor, copier)

Sample Lesson 8: AIDS and HIV — The latest!

Goal: To update knowledge about AIDS and HIV.

Outcome Objectives:

Learners will:

- Gather relevant information about AIDS and HIV from a web site.
- Develop ways to inform family and friends about the latest developments on AIDS and HIV.

Instructional Materials & Resources:

- Access to Internet
  http://www.thebody.com/
- Writing materials, construction paper, crayons, markers, old magazines
- Handout D

Activity 1: Learners access web site above[1] and note the various issues which are offered about AIDS and HIV. Issues of interest are elicited and teams are formed based on common themes. Each team is responsible for researching the assigned issue on the web site. On Handout D, information and words needing definition are recorded by each team. The words are also displayed for the class on newsprint. When appropriate, large group discussion addresses word definitions, a shared exercise by learners and the instructor.

Activity 2: Each team shares and displays their combined knowledge about the assigned AIDS and HIV issue with the class. Large group discussion should occur after each presentation to add perspectives and experiences from other teams.

Activity 3: All learners formulate a brief AIDS/HIV message for someone they care about. The message can be related to any aspect of AIDS/HIV including prevention, treatment options, support groups and other resources, such as drug abuse, faith, and hope. The message can be in the form of a letter, poem, short story, collage, e-mail, poster, drawing, cassette tape, or game.

Activity 4: Learners engage in a class discussion about the reactions of the recipients upon receiving the messages, describing the discussion that ensued. Learners discuss the efficacy of such messages in the prevention and treatment of AIDS and HIV.

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[1] AIDS and HIV information is difficult to read by its very nature and will have to be compensated for. Also, this site is commercial, although there is no advertising.

Sample Lesson 9: Resumes and Cover Letters

Goal: To introduce learners to the job searching process.

Outcome Objectives: Learners will:

- Recognize the elements of an effective cover letter and resume.
- Prepare personal resumes and cover letters.
- Critique sample resumes and cover letters.

Instructional Materials & Resources:

- Access to Internet
  http://www.otan.dni.us/cdlp/cdlp.html
- Flip chart and markers
- Handouts E, F, G, H, I, J, and K^{1-3}

Activity 1: Individually or in pairs, learners will go to Lifelong Learning Online of the Internet site above. Students will review and take notes from both Writing a Resume and Cover Letter. Each learner will complete two of the three exercises on the site: Multiple Choice, Drawing Conclusions, and Vocabulary.

As a class, learners will share what they have learned from the sites, with the instructor recording learners' ideas on components of effective cover letters and resumes on the flip chart.

Activity 2: Using Handouts E, F, G, H, I, and J, learners write first drafts of their own resumes. Learners swap resumes and refer to Handouts K^{1-3} to critique one another's work. Resumes are returned to authors for revision.

Activity 3: In response to an advertisement or job opening in which they are interested, learners write a draft cover letter and swap with other learners for feedback. Learners can refer to flip chart listing of effective components to ensure quality of letter. Cover letters are revised and finalized. If ready, learners submit cover letter and resume to employer for consideration.

Sample Lesson 10: Jobs A - Z!

Goal: To be aware of employment-related information at the New York State Department of Labor (DOL).

Outcome Objectives: Learners will:

- Access employment-related information on DOL's gopher.
- Identify appropriate job titles, salaries, and required education/training.

Instructional Resources &

- Access to Internet
  http://www.labor.state.ny.us/trends/trends.htm
- Writing materials
- Handouts L, M, N, and O

Activity 1: Learners access the Internet site above. From the regions listed, each learner chooses one of interest. Learners compile information (recording it on Handout L) from the following categories:

- *Projected Fastest Growing Occupations*
- *Projected Largest Numerical Growth*
- *Projected Largest Net Openings*
- *Selected Growth of Occupations by Education Requirements.*

Based on the information compiled, learners select at least three jobs that seem promising.

Activity 2: Learners click on Career Resource Library to look up wage information on National, State, and Local Wage Data. For each of the jobs selected in Activity 1, learners note prevailing wage.

Based on information compiled thus far (job trends, salary, education requirements), learners compare the three jobs and select one as a possible target. On Handout M, learners list the steps needed to be eligible. Areas to address include: interest, education, training, experience to date, and status of resume. When completed, learners discuss handout with instructor or counselor (who knows about the lesson). Learners make necessary adjustments to handout based on those discussions.

Activity 3: On Handout N, learners list a series of activities and dates to be completed from the previous activity. This handout may be considered a contract which can be formally signed by instructor and learner (if appropriate).

Activity 4: Instructor facilitates a large group discussion on needed supports in order to complete the above contract. This discussion can include:

- a list of available supports (such as spouse, children, parents, friends, and peer learners)
- "how to" hints on gaining support (such as small rewards to children for helping with meals or certificate of appreciation to spouse)
- role playing to ask for support, among others.

Utilizing Handout O, learners then list the people they are going to solicit for help and support, timetable, and rewards. **Note: Handouts N and O should be revisited every few weeks to make sure learners are following through with their contracts and needed supports.**

Sample Lesson 11: Job Search in Cyberspace!

Note: This sample lesson should be presented after students have completed Sample Lesson 10.

Goal: To encourage job searches on the Internet using the web site of the New York State Department of Labor (DOL) as a guide.

Outcome Objectives: Learners will:

- Access job search information about a selected job from DOL's web site (see Sample Lesson #10).
- Access additional information about selected job listings.

Instructional Materials & Resources:

- Access to Internet
  http://www.labor.state.NY.US/dolemp.htm
- Writing materials
- Handout P

Activity 1: Learners access above web site. Using the menu search function, learners identify positions available in the job category (identified in Lesson 10) in their selected region by clicking on View Jobs Now. Learners select at least three positions on list and click on View Jobs. Learners compare the three selected jobs by such factors as salary, job description, and requirements.

Activity 2: On Handout P, each learner lists the selected job most appropriate for him/her and then writes a paragraph on why he/she is the best candidate for the job.

Activity 3: Using information from Activity 2, learner writes a cover letter for the resume.

Sample Lesson 12: Learning Disabilities — Getting Help

Goal:	To make learners aware of resources addressing learning disabilities.
Outcome Objectives:	Learners will: ➢ Discuss learning and barriers to learning, including learning disabilities. ➢ Access information on learning disabilities from the Internet. ➢ Recommend resources for individuals seeking assistance with learning disabilities.
Instructional Materials & Resources:	⇨ Access to Internet http://www.ldonline.org

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Activity 1: Instructor facilitates classroom discussion on learning by asking learners to brainstorm how they learn, including their barriers to learning. Based on this discussion, instructor will introduce the concept of learning disabilities, and how learning disabilities can impact adults and youth. Instructor will ask for volunteers to share their stories regarding either their own or their children's learning disabilities. Stories should include how discovery of learning disabilities made the storytellers feel and what they did with the discovery.

Activity 2: To pursue further conversation with a broader audience, learners will participate in the Learning Disabilities Forum on the Bulletin Board of the Internet site, noted above.

Activity 3: Based on the information gleaned from their numerous conversations, learners (working individually or in pairs) will seek resources for people with disabilities and their families. Learners will access the Finding Help link of the same Internet site to identify agencies and organizations, phone resources, publications, and on-line resources. Based on conversations and research, learners will either use or recommend to others appropriate resources.

Sample Lesson 13: The Internet — It Is For More Than Research

Goal: To make learners aware of the applicability of the Internet in day-to-day living.

Outcome Objectives: Learners will:

- ➢ Access the Internet.
- ➢ Use key searches to locate information.
- ➢ Describe how to use the Internet to accomplish an ordinary task.

Instructional Materials & Resources:

- ⇨ Access to Internet
- ⇨ Flip chart and markers

Activity 1: As a whole class, learners will brainstorm what they think can be done on the Internet. Instructor will record answers on the flip chart and draw from the class a conclusion of whether the Internet can be useful on a day-to-day basis. On a separate piece of paper, instructor will record responses to phase two of the brainstorming activity: listing daily tasks for which learners are responsible.

Activity 2: Instructor will ask pairs or small groups of learners to explore the Internet with keyword searches on words or phrases identified in Activity 1. Words/phrases will probably include:

- ♦ grocery shopping
- ♦ health care/picking up prescriptions
- ♦ buying clothes, supplies, and bigger items (like appliances)
- ♦ banking
- ♦ caring for children
- ♦ helping children with homework
- ♦ getting around town by bus or taxi.

Learners will note helpful web sites and relate to the class how these sites can be used in day-to-day life. Instructor may want to facilitate a class discussion on learners' reactions to the wealth of information available:

- ♦ Were the learners surprised at what they found?
- ♦ Was the information helpful?
- ♦ What are the advantages/pluses/benefits of using the Internet?
- ♦ What are the disadvantages/minuses/risks of using the Internet?

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Activity 3: With a list of sites compiled by learners or provided by instructor, learners will form an action plan for accomplishing a task through the Internet. The plan may be to:

- do weekly grocery shopping
- look into banking options
- learn about side effects of medications
- consult various consumer reports to prepare for purchasing a large item.

To get learners started, instructor might suggest a few sites to look at:

Commercial sites

Sears	http://www.sears.com
Wal-Mart	http://www.wal-mart.com
L.L. Bean	http://www.llbean/com
Market Street (on-line grocery shopping)	http://www.marketst.com/

Other sites

NY State Health Department	http://www.health.state.ny.us/

(for public health information, data, and services)

Sample Lesson 14: Math Mirth

Goal:	To counteract learners' fear and dislike of learning math.
Outcome Objectives:	Learners will: ➢ Interact with other learners to solve math problems. ➢ Serve as learners and teachers of math. ➢ Explore non-threatening applications of math.
Instructional Materials & Resources:	⇨ Access to Internet http://forum.swarthmore.edu/

Activity 1: Learners will formulate a question they have on a math problem they are working on in class or have encountered in their personal lives. Working in pairs or alone, learners will post their questions to "Dr. Math" on Ask Dr. Math of the Internet site noted above. This activity is appropriate for any level of learner because this site addresses students ranging from elementary through graduate level. By checking for the response to their question, learners will become more comfortable accessing the Internet. Learners may wish to share the solutions to their questions with the rest of the class.

Activity 2: Instructor will assign two math problems to a pair of learners. To gain experience in working with others to solve problems, one of the pair of students will assume the role of math mentor, the other of student. They will work together to solve the first problem and then reverse roles to complete the second assignment.

Once they feel comfortable working with others on math problems, learners will register (depending on level of math ability) with the Elementary Problem of the Week, the Geometry Problem of the Week, or the Geometry Project of the Month on the Internet site. (Instructor may need to facilitate the registration process.) This activity allows learners to talk with math mentors and to assume the role of math mentor on-line.

Activity 3: Learners will click onto Math Tips and Tricks on the Internet site to solve math-related puzzles and to pick up calculator tips. As additional activities, learners might:

- share their tips with the class
- conduct a lesson incorporating one of the puzzles

- modify tips or puzzles for use with their children
- compile a booklet of fun math tips and puzzles for their own, their children's, or their classroom's use.

Note: Http://www2.wgbh.org/mbcweis/ltc/clc/numintro.html is another source of math lessons learners might wish to explore. This site was designed specifically for adult learners.

Sample Lesson 15: Fun with Wiggle Word Puzzles!

Goal:	To increase word recognition skills.
Outcome Objectives:	Learners will: ➢ Scan Wiggle Word Puzzles for familiar words. ➢ Clarify word meaning by combining words in sentences.
Instructional Materials & Resources:	⇨ Internet Access http://users.aol.com/themazeman/ ⇨ Writing materials, construction paper, markers

Activity 1: Using an example from the web site, instructor illustrates on an overhead projector how the puzzles are "solved." Learners help solve another example.

Activity 2: Learners access the web site[2], click on Wiggle Word Puzzles, and choose various Wiggle Word Puzzles to solve. Alternatively, if Internet access is limited, instructor prints out and distributes puzzles. Contests can be set up with prizes for the most words given to the winners. Prizes can include: more puzzles, an easy-to-read story or poem, colored markers or stamps, a free cup of coffee or soda for a week, an extra period of time for e-mail, etc. Contests must be carefully planned and sensitively presented. Otherwise, they may remind learners of previous unpleasant academic experiences.

Activity 3: Learners print the words from the Wiggle Word Puzzles on construction paper and display them around the room. Learners organize into teams to construct a sentence using as many of the words (with their correct meaning) as possible. Again, this can be in the form of a contest with the usual cautions.

Activity 4: Learners design their own Wiggle Word Puzzles and share them with someone. If they have keypals or subscribe to a listserv, they can share online.

[2] John Knoderer. MAZE MAN PUZZLE SERVICES, 101 Main Street SE, PO Box 744, Gravette, AR 72736-0744

HANDOUT A

Country: _____

Visual Arts: _____

_____

_____

Performing Arts: _____

_____

_____

_____

Crafts: _____

_____

_____

_____

Art and Culture: _____

Language: _____

_____

History: _____

_____

Historic Figures: _____

_____

B	I	N	G	O
home.netscape.com/home/internet-search.html	www.medicinenet.com	att.net/dir800/catindex.html	www.the-vault.com/freestuff/	www.lycos.com/pplfndr.html
www.bookwire.com/hmr/review/recom.html	www.yahoo.com/recreation/travel/	//kmmc.harvard.net	www.si.edu/resource/tours/kidsguide/	www.smithsonianmag.si.edu/smithsonian/toccurrent.shtml
www.inconnect.com/~americom/aclookup.html	www.microsoft.com/search	www.wwwomen.com	//bang.lanl.gov/solarsys/	s12.bigyellow.com/homeinfobutton.html
www.wave.net/upg/immigration/flags.html	www.ama-assn.org	www.disney.com	//www.mapquest.com	//my.excite.com/horoscopes/?1-Lh-t
//maps.yahoo.com/yahoo/	www.unitedmedia.com/comics/peanuts	www.infoseek.com/arts_and_entertainment/games?sv=n3	www.lycos.com/emailfind.html	www.public.iastate.edu/~jmilne/pooh.html

HANDOUT #1

B	I	N	G	O
Calendar of events happening in your area	Medical information	Toll-free telephone numbers	Order free stuff	Your home phone number
A book list for teenagers	A site to aid the planning of a visit to another city	Greeting Cards	A kid's guide to the Smithsonian Museum	This month's Smithsonian magazine
Telephone area codes	Your hometown or other newspaper	Directory of women's sites	A view of the solar system	Yellow pages of the phone book for particular city
Flags of all countries	Check out your doctor's credentials	All about Disney World	Plan a trip	Your horoscope
Produce a map of where you live	*Peanuts* comic strip	A game to play	Look up an e-mail address for someone	The homepage at Pooh Corner

HANDOUT B²

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B	I	N	G	O

HANDOUT #

HANDOUT C

Issues for Parents and Children

Parents	Children

Topic for flyer: _____

Use this box to design your flyer:

HANDOUT D

AIDS and HIV

Record information and any words needing definition.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

_____

_____

_____

HANDOUT E: Personal Inventory

Fill in the following inventory about yourself. Not all of the information will be used in your resume, but it will help you decide what to include in the resume and what to highlight in an interview.

Education and Training

High School

If you are a college graduate, you will probably not use this information on your resume.

School: _____

Dates attended: _____ to _____ Graduated: _____

Major studies: _____ Class standing: _____

Honors and awards: _____

Best subjects: _____

Other achievements and activities: _____

_____

College

School: _____

Dates attended: _____ to _____ Graduated: _____

Major studies: _____ Class standing: _____

Honors and awards: _____

Best subjects: _____

Extracurricular activities: _____

_____

Other Training **(List any vocational courses, on-the-job training, military or other formal training.)**

Course: _____ Date taken: _____

Skills learned: _____

_____

Licenses or certificates held: _____

Course: _____ Date taken: _____

Skills learned: _____

_____

Licenses or certificates held: _____

Outside Activities and Interests

Home and Community Work

Activities you have done outside of paid employment (for self and family, for others) which demonstrate your abilities. Do not undervalue this experience.

Accomplishment: _____

Skills demonstrated: _____

_____

Accomplishment: _____

Skills demonstrated: _____

_____

Accomplishment: _____

Skills demonstrated: _____

_____

Hobbies/Interests

Hobby or activity: _____

Accomplishment: _____

Skills demonstrated: _____

_____

Hobby or activity: _____

Accomplishment: _____

Skills demonstrated: _____

_____

Hobby or activity: _____

Accomplishment: _____

Skills demonstrated: _____

_____

Hobby or activity: _____

Accomplishment: _____

Skills demonstrated: _____

HANDOUT F: Work Experience

List up to four different jobs you have had, starting with your current position. For each position, list your major duties. Also list at least five achievements or results, even if they seem trivial now. Start with the ones of which you are most proud.

Examples of the kinds of things to include as work results:

--Increased work flow by 20 percent.

--Cut out three steps in report production process.

--Organized office personnel records.

--Managed acquisition of copier.

--Made arrangements for conference of 200 people.

--Set up resource library.

Current Job:

Job Title: _____ Date: _____

Employer: _____

Major Responsibilities: _____

_____

_____

_____

List five accomplishments or results produced:

_____

_____

_____

_____

_____

_____

Job #2:

Job Title: _____ Date: _____

Employer: _____

Major Responsibilities: _____

_____

_____

List five accomplishments or results produced:

_____

_____

_____

_____

_____

_____

_____

_____

Job #3:

Job Title: _____ Date: _____

Employer: _____

Major Responsibilities: _____

_____

_____

List five accomplishments or results produced:

_____

_____

_____

_____

_____

_____

_____

_____

Job #4:

Job Title: _____ Date: _____

Employer: _____

Major Responsibilities: _____

_____

_____

List five accomplishments or results produced:

_____

_____

_____

_____

_____

_____

_____

Job #5:

Job Title: _____ Date: _____

Employer: _____

Major Responsibilities: _____

_____

_____

_____

List five accomplishments or results produced:

_____

_____

_____

_____

_____

_____

_____

HANDOUT C: Action Words

Use these words to describe your accomplishments:

administered
advised
analyzed
arranged
assembled
assisted
assumed responsibility
billed
built
carried out
channeled
collected
communicated
compiled
completed
conducted
contacted
contracted
controlled
coordinated
corresponded
counseled
created
cut
designed
determined
developed
directed
dispatched
dispensed
distributed
documented
edited
eliminated
established
expanded
functioned as
gathered
handled
hired
identified
implemented
improved
increased
inspected
instituted
instructed
interviewed
introduced
invented
maintained
managed
met with
motivated
negotiated
obtained
operated
orchestrated
ordered
organized
oversaw
performed
planned
prepared
presented
produced
programmed
published
purchased
recommended
recorded
reduced costs
referred
represented
researched
reviewed
routed
saved
screened
selected
served as
served on
sold
solved
suggested
supervised
taught
tested
trained
typed
was promoted
wrote

Any others?

_____
_____
_____
_____

HANDOUT H: Describing Work Experiences

Using the major responsibilities and accomplishments you listed for each job on Handout F, write a paragraph describing each job.

Current job:

Job #2:

Job #3:

Job #4:

Job #5:

HANDOUT I: Resume "Do's" and "Don'ts"

Some Resume "Do's"

Keep sentences and paragraphs short.

Use indented and bulleted statements, where appropriate, rather than complete sentences.

Put strongest statements first.

Check for spelling, punctuation and grammar.

Avoid excessive use of "I."

Be sure to include:

Address with zip

Phone number with area code

Some Resume "Don'ts"

Do not include pictures.

Do not list references or relatives.

Do not put resume in fancy binder or folder.

Do not list sex, weight, health or other personal irrelevancies.

Do not highlight problems (divorce, hospitalization, handicaps).

Do not include addresses of prior employers (city and state only).

Do not include salary information.

HANDOUT J: Resume Types

Chronological Resume

Work experience and personal history arranged in reverse time sequence.

Advantages:

- Employers are more familiar with it.
- Easiest to prepare, since its content is structured by familiar dates, companies, and titles.
- Steady employment record (without much job hopping) is put into best perspective.
- Interviewer is provided with a guide for discussing work experience.

Disadvantages:

- Reveals employment gaps.
- May put undesired emphasis on job areas that an applicant wants to minimize.
- Difficult to spotlight skill areas unless they are reflected in most recent jobs.

Best to use:

- When name of last employer is an important consideration.
- When staying in same field as prior jobs.
- When job history shows real growth and development.
- When prior titles are impressive.
- In highly traditional fields.

Preferable not to use:

- When work history is spotty.
- When changing career goals.
- When you have changed employment too frequently.
- When you wish to de-emphasize age.
- When you have been doing the same thing too long.
- When you have been absent from the job market for a while.
- When you are looking for your first job.

Functional Resume

Work experience and abilities catalogued by major areas of involvement -- sometimes with dates, sometimes without.

Advantages:

- Stresses selected skill areas that are marketable or in demand.
- Helps camouflage a spotty employment record.
- Allows the applicant to emphasize professional growth.
- Plays down positions not related to current career goals.

Disadvantages:

- Many employers are suspicious of it and will want to see additional work-history information.
- Does not allow you to highlight companies or organizations for which you have worked.

Best to use:

- When you want to emphasize capabilities not used in recent work experience.
- When changing careers.
- When entering job market for the first time.

— When re-entering job market after an absence.

— If career growth in past has not been good.

— When you have had a variety of different, relatively unconnected work experiences.

— Where much of your work has been free lance, consulting or temporary.

Preferable not to use:

— When you want to emphasize a management growth pattern.

— For highly traditional fields such as teaching, ministerial, political, where the specific employers are of paramount interest.

— Where you have performed a limited number of functions in your work.

— When your most recent employers have been highly prestigious.

Combination Resume

Similar in format to functional resume, but company names and dates are included in a separate section.

Advantages:

— Provides a good opportunity to emphasize your most relevant skills and abilities.

— Can de-emphasize gaps in employment.

— Can be varied to emphasize chronology and de-emphasize functional descriptions, or vice versa.

Disadvantages:

— Takes longer to read and an employer can lose interest unless it is very succinctly written and attractively laid out.

HANDOUT K[1]: Example: Chronological Resume

Maria Simone
444 Main Street
Anyplace, New York 12234
(518) 432-6761

Secretary

WORK EXPERIENCE:

1988-Present
Secretary to Assistant Bureau Chief
Bureau of Curriculum Development
New York State Education Department

--Coordinated clerical tasks of clerical staff of four
--Performed a variety of clerical tasks
--Scheduled appointments
--Screened telephone calls and welcomed visitors
--Typed letters and reports

1986-1988
Clerk-Typist
Bureau of School Health Education and Services
New York State Education Department

--Typed letters for Program Manager

1983-1986
Secretary, *Journal of Applied Mathematics*

--Directed day-to-day journal operations
--Handled all general queries with authors
--Prepared statistics, agenda, and minutes of editors' meetings

EDUCATION:

A.A. Hudson Valley Community College, 1981-83.
Secretarial Studies

HANDOUT K²: Example: Functional Resume

Alice Howell
111 1st Street
Troy, New York 12180
(518) 432-0785

MAJOR WORK EXPERIENCE:

Research
Gathered and analyzed data about the representation of minority students in two-year colleges. Familiar with data collection and statistics. Good knowledge of computers.

Writing
Wrote letters for supervisor in response to inquiries from public. Wrote reports on a number of issues related to minority hiring.

Administration and Management
Hired and trained ten clerks. Managed office of three clerks.

Acquisition
Bought office supplies. Researched and arranged purchase of major office equipment, including copier, fax machine and computer system.

EDUCATION: Albany Business College, 1983-84.

HANDOUT K³: Example: Combination Resume

Alice Howell
111 1st Street
Troy, New York 12180
(518) 432-0785

MAJOR WORK EXPERIENCE:

Research
Gathered and analyzed data about the representation of minority students in two-year colleges. Familiar with data collection and statistics. Good knowledge of computers.

Writing
Wrote letters for supervisor in response to inquiries from public. Compiled data and wrote monthly reports on training program about minority hiring.

Administration and Management
Hired and trained ten clerk-typists. Managed office of three clerks.

Acquisition
Bought office supplies. Researched and arranged purchase of major office equipment, including copier, fax machine and computer system.

1987-present — New York State Division of Human Rights

Managed Office of Director of Training, including the hiring, training, and supervising of three clerk-typists. Purchased all supplies and equipment for office. Developed data management system for computer system.

1984-1987 — Minority Students Research Project, Adirondack Community College

Gathered and analyzed data about enrollment of minority students in all two-year colleges in New York State. Wrote summary chapter of final project report.

EDUCATION: Albany Business College, 1983-84

HANDOUT L

Record information below.

Projected Fastest Growing Occupations:

_____

_____

_____

_____

Projected Largest Numerical Growth:

_____

_____

_____

_____

Projected Largest Net Openings:

_____

_____

_____

_____

Selected Growth of Occupations by Education Requirements:

_____

_____

_____

_____

HANDOUT M

Possible Job Target: _____

Steps Needed to be Eligible:

Interest: _____

Education: _____

Training: _____

Experience to date: _____

Status of Resume: _____

HANDOUT N

Plan

Activities	Completion Dates
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

_____

(Student Signature)

_____

(Instructor Signature)

HANDOUT O

Supports

Record the names of people who can support you while you are completing your plan. Also, describe the kind of support each person will provide.

Name	Support

HANDOUT P

Best job for me: _____

_____

Why: _____

_____

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Appendix A

Literacy Assistance Center
Directory of Adult Literacy, ESOL and Nonprofit Resources on the World Wide Web

Literacy Organizations Online

Adult Literacy Resource Institute (Boston)
http://www2.wgbh.org/MBCWEIS/LTC/ALRI/alri.html

Australian Language Literacy and Asian Studies Project
http://netspot.unisa.edu.au/llasp/

Hudson River Center for Program Development, Inc.
http://www.hudrivctr.org/

Indiana Literacy & Technical Education Resource
http://www.statelib.lib.in.us//www/inrc/hp14.html

Institute for the Study of Adult Literacy (Penn State Univ.)
http://www.psu.edu/institutes/isal/

International Literacy Institute
http://ili2.literacy.upenn.edu/ILI/

Literacy Assistance Center, Inc.
http://www.lacnyc.org

Michigan State Literacy Resource Center
gopher://edcen.ehhs.cmich.edu:/11/edcen.resource/rfrm/slrc/

National Center on Adult Literacy (NCAL)
http://litserver.literacy.upenn.edu

National Institute for Literacy (NIFL LINCS)
http://novel.nifl.gov/

Ohio Literacy Resource Center
http://archon.educ.kent.edu/

Outreach and Technical Assistance Network (OTAN)
http://www.otan.dni.us

Northeast Region 1 Technology Hub
http://hub1.worlded.org

Texas Literacy Resource Center
http://tlrc.tamu.edu

Virginia Adult Education and Literacy Resource Center
http://www.vcu.edu/aelweb/

Literacy and ESOL Instructional Resources

AskERIC
http://ericir.syr.edu

California Distance Learning Project
http://www.otan.dni.us/cdlp/cdlp.html

CNN's Interactive Learning Resources for Teaching
http://www.cnnsf.com/cgi-bin/cnn/education/ed.cgi

Dave's ESL Cafe
http://www.pacificnet.net/~sperling/eslcafe.html

ERIC: Adult Literacy Information and Materials on the Internet
gopher://ericir.syr.edu:70/11/Ed/AdultLit

ERIC Clearinghouse on Science, Mathematics and Environmental Education
http://www.ericse.org

ERIC Clearinghouse on Urban Education
http://eric-web.tc.columbia.edu/

ESL Home Page
http://www.lang.uiuc.edu/r-li5/esl/

ESL Virtual Catalog
http://www.pvp.com/esl.htm

EX*CHANGE (Exchange, Xross Cultural, Hypertextual Academy of Non-Native Gatherings in English
http://deil.lang.uiuc.edu/exchange/

Fluency Through Fables
http://www.comenius.com/fable/index.html

International Tutoring Foundation, Inc.
http://edie.cprost.sfu.ca/~it/

Inquiry Maps
http://www2.wgbh.org/MBCWEIS/LTC/ALRI/I.M.html

Lifelong Learning Online
http://www.otan.dni.us/cdlp/lllo/home.html

Mega Math
http://www.c3.lanl.gov/mega-math/welcome.html

Public Broadcasting Service (PBS ONLINE)
http://www.pbs.org/

Purdue University's On-Line Writing Lab
http://owl.english.purdue.edu/

TOEFL Home Page
http://www.toefl.org

TESOL Home Page
http://www.tesol.com/

UNESCO's Education Information Service
http://www.education.unesco.org/index.html

The Virtual English Language Center
http://www.comenius.com

Technology and Education Resources

Basic Internet Guides
http://www.rpi.edu/Internet/InetGuides.html

EdWeb
http://edweb.cnidr.org:90/

From Now On – a monthly electronic journal devoted to educational technology
http://fromnowon.org

IBM Kiosk for Education
http://ike.engr.washington.edu/

Patrick Crispen's Internet Roadmap
http://www.brandonu.ca/~ennsnr/Resources/Roadmap/Welcome.html

Teaching with Technology
http://www.wam.umd.edu/%7Emlhall/teaching.html

Virtual Computer Library
http://www.utexas.edu/computer/vcl

BEST COPY AVAILABLE

Funding and Grant Information Resources

Council On Foundations
http://www.cof.org/

David Lam's Prospect Research Page
http://weber.u.washington.edu/~dlamb/research.html

FEDIX (Federal Information Exchange)
http://web.fie.com/

Federal Web Locator
http://www.law.vill.edu/Fed-Agency/fedwebloc.html/

The Foundation Center
http://fdncenter.org

The Grantsmanship Center
http://www.tgci.com

GuideStar Database of Nonprofit Organizations
http://www.guidestar.org

HUD (Department of Housing and Urban Development)
http://www.hud.gov

Internet Nonprofit Center's Nonprofit Locator
http://www.nonprofits.org/library/gov/irs/search_irs.shtml

Internet Prospector
http://plains.uwyo.edu/~prospect/

National Center for Nonprofit Boards
http://www.ncnb.org

National Charities Information
http://www.give.org

New York State Education Department
http://www.nysed.gov/

Philanthropy Journal Online
http://www.philanthropy-journal.org/

Thomas: Legislative Information on the Internet
http://rs9.loc.gov

TIIAP (Telecommunications and Information Infrastructure Assistance Program)
http://www.ntia.doc.gov/tiiap/

U.S. Department of Education
http://www.ed.gov

Employment, Training & Workplace Literacy

Academic Innovations
http://www.academicinnovations.com

America's Job Bank
http://www.ajb.dni.us/

Cornell School of Industrial & Labor Relations
http://www.ilr.cornell.edu/

Empowerment Zone and Enterprise Community Program (EZ/EC)
http://www.ezec.gov/

National Association of Workforce Development Professionals
http://www.work-web.com/nawdp/

National Center for Research in Vocational Education
http://vocserve.berkeley.edu

New York State Department of Labor
http://www.labor.state.ny.us

New York State Education Department Office of Workforce and Continuing Education
http://www.nysed.gov/workforce/work.html

O*NET (The Occupational Information Network)
http://www.doleta.gov/programs/onet/

Open Options
http://www.rustnet/~skindell/brochure.html

SCANS/2000 (Johns Hopkins University Institute for Policy Studies)
http://www.jhu.edu/~ips/scans/

School-to-Work Internet Gateway
http://www.stw.ed.gov

School-to-Work, New York City
http://165.155.18.7/guests/stw/stwdef.html

Training and Technical Resource Center
http://ttrcnew.ttrc.doleta.gov/

Work Web Employment and Training Resource
http://www.work-web.com

Family Literacy Resources

Children's Literature Web Guide
http://www.ucalgary.ca/~dkbrown/index.html

ERIC Clearinghouse on Elementary and Early Childhood Education (home of National Parent Information Network)
http://ericps.ed.uiuc.edu/

Family Involvement
http://www.ed.gov/Family/

Parents and Children Together On-Line
http://www.indiana.edu/~eric_rec/fl/pcto/menu.html

Technology Planning Resources

Community Technology Centers' Network
http://www.ctcnet.org

The Do's and Don'ts of Technology Planning
http://www.isf.com

Libraries for the Future
http://www.inch.com/~lff

National Center for Technology Planning
http://www2.msstate.edu/~lsa1/nctp/index.html

6 Steps for Technology Planning
http://www.directnet.net/6steps.html

The Switched-On Classroom
http://http://www.swcouncil.org/switch2.html

Technology Planning for K-12 Education
http://www.tcet.unt.edu/tekplan.htm

Miscellaneous Interesting Resources

CapWeb: A Guide to the U.S. Congress
http://policy.net/capweb/congress.html

Central Intelligence Agency (CIA)
http://www.idci.gov/cia/publications/95fact/index.html

Human Language Page
http://www.june29.com/HLP/

Library of Congress
http://lcweb.loc.gov

Smithsonian
http://www.si.edu

TeachNet
http://www.teachnet.org

Views of the Solar System
http://bang.lanl.gov/solarsys

Virtual Tourist II
http://www.vtourist.com/vt/

Whitehouse
http://www.whitehouse.gov

Multicultural Education Resources

Pathways to Diversity
http://usc.edu/Library/QF/diversity/

CLNET Diversity Page
http://latino.sscnet.ucla.edu/diversity1.html

Multicultural Paths
http://curry.edschool.virginia.edu/go/multicultural/sites1.html

Internet Search Engines

AltaVista
http://www.altavista.com

Excite
http://www.excite.com

InfoSeek
http://www.infoseek.com

Lycos
http://lycos.cs.cmu.edu/

WebCrawler
http://www.webcrawler.com

Yahoo
http://www.yahoo.com

ILC Glossary of Internet Terms

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The URL of this document is: http://www.matisse.net/files/glossary.html which is where you can look for the latest, most complete version.

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A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z

56k Line

A digital phone-line connection (leased line) capable of carrying 56,000 bits-per-second. At this speed, a *Megabyte* will take about 3 minutes to transfer. This is 4 times as fast as a 14,400bps modem.

See Also: Bandwidth , T-1

ADN

(Advanced Digital Network) -- Usually refers to a 56Kbps *leased-line*.

ADSL

(Asymmetric Digital Subscriber Line) -- A method for moving data over regular phone lines. An ADSL circuit is much faster than a regular phone connection, and the wires coming into the subscriber's premises are the same (copper) wires used for

regular phone service. An ADSL circuit must be configured to connect two specific locations, similar to a leased line.

A commonly discussed configuration of ADSL would allow a subscriber to receive data (download) at speeds of up to 1.544 megabits (not megabytes) per second, and to send (upload) data at speeds of 128 kilobits per second. Thus the "Asymmetric" part of the acronym.

Another commonly discussed configuration would be symmetrical: 384 Kilobits per second in both directions. In theory ADSL allows download speeds of up to 9 megabits per second and upload speeds of up to 640 kilobits per second.

ADSL is often discussed as an alternative to *ISDN*, allowing higher speeds in cases where the connection is always to the same place.

See Also: bit , bps , ISDN

Anonymous FTP

See Also: FTP

Archie

A tool (software) for finding files stored on *anonymous FTP* sites. You need to know the exact file name or a substring of it.

ARPANet

(Advanced Research Projects Agency Network) -- The precursor to the *Internet*. Developed in the late 60's and early 70's by the US Department of Defense as an experiment in wide-area-networking that would survive a nuclear war.

See Also: Internet

ASCII

(American Standard Code for Information Interchange) -- This is the de facto world-wide standard for the code numbers used by computers to represent all the upper and lower-case Latin letters, numbers, punctuation, etc. There are 128 standard ASCII codes each of which can be represented by a 7 digit binary number: 0000000 through 1111111.

Backbone

A high-speed line or series of connections that forms a major pathway within a network. The term is relative as a backbone in a small *network* will likely be much smaller than many non-backbone lines in a large network.

See Also: Network

Bandwidth

How much stuff you can send through a connection. Usually measured in bits-per-second. A full page of English text is about 16,000 bits. A fast modem can move about 15,000 bits in one second. Full-motion full-screen video would require roughly 10,000,000 bits-per-second, depending on compression.

See Also: 56k Line , Bps , Bit , T-1

Baud

In common usage the baud rate of a *modem* is how many *bits* it can send or receive per second. Technically, baud is the number of times per second that the carrier signal shifts value - for example a 1200 bit-per-second modem actually runs at 300 baud, but it moves 4 bits per baud (4 x 300 = 1200 bits per second).

See Also: Bit , Modem

BBS

(Bulletin Board System) -- A computerized meeting and announcement system that allows people to carry on discussions, upload and download files, and make announcements without the people being connected to the computer at the same time. There are many thousands (millions?) of BBS's around the world, most are very small, running on a single IBM clone PC with 1 or 2 phone lines. Some are very large and the line between a BBS and a system like CompuServe gets crossed at some point, but it is not clearly drawn.

Binhex

(BINary HEXadecimal) -- A method for converting non-text files (non-ASCII) into *ASCII*. This is needed because Internet e-mail can only handle ASCII.

See Also: ASCII , MIME , UUENCODE

Bit

(Binary DigIT) -- A single digit number in base-2, in other words, either a 1 or a zero. The smallest unit of computerized data. *Bandwidth* is usually measured in bits-per-second.

See Also: Bandwidth , Bps , Byte , Kilobyte , Megabyte

BITNET

(Because It's Time NETwork (or Because It's There NETwork)) -- A *network* of educational sites separate from the Internet, but e-mail is freely exchanged between *BITNET* and the Internet. *Listservs*, the most popular form of e-mail discussion groups, originated on BITNET. BITNET machines are usually mainframes running the VMS operating system, and the network is probably the only international

network that is shrinking.

Bps

(Bits-Per-Second) -- A measurement of how fast data is moved from one place to another. A 28.8 *modem* can move 28,800 bits per second.

See Also: Bandwidth , Bit

Browser

A *Client* program (software) that is used to look at various kinds of Internet resources.

See Also: Client , URL , WWW , Netscape , Mosaic , Home Page (or Homepage)

BTW

(By The Way) -- A shorthand appended to a comment written in an online forum.

See Also: IMHO , TTFN

Byte

A set of Bits that represent a single character. Usually there are 8 Bits in a Byte, sometimes more, depending on how the measurement is being made.

See Also: Bit

Certificate Authority

An issuer of *Security Certificates* used in *SSL* connections.

See Also: Security Certificate , SSL

CGI

(Common Gateway Interface) -- A set of rules that describe how a *Web Server* communicates with another piece of software on the same machine, and how the other piece of software (the "CGI program") talks to the web server. Any piece of software can be a CGI program if it handles input and output according to the CGI standard.

Usually a CGI program is a small program that takes data from a web server and does something with it, like putting the content of a form into an e-mail message, or turning the data into a database query.

You can often see that a CGI program is being used by seeing "cgi-bin" in a URL, but not always.

See Also: cgi-bin , Web

cgi-bin

The most common name of a directory on a web server in which *CGI* programs are stored.
The "bin" part of "cgi-bin" is a shorthand version of "binary", because once upon a time, most programs were refered to as "binaries". In real life, most programs found in cgi-bin directories are text files -- scripts that are executed by binaries located elsewhere on the same machine.

See Also: CGI

Client

A software program that is used to contact and obtain data from a *Server* software program on another computer, often across a great distance. Each *Client* program is designed to work with one or more specific kinds of *Server* programs, and each *Server* requires a specific kind of *Client*. A Web *Browser* is a specific kind of *Client*.

See Also: Browser , Server

Cookie

The most common meaning of "Cookie" on the Internet refers to a piece of information sent by a Web *Server* to a Web *Browser* that the Browser software is expected to save and to send back to the Server whenever the browser makes additional requests from the Server.

Depending on the type of Cookie used, and the Browser's settings, the Browser may accept or not accept the Cookie, and may save the Cookie for either a short time or a long time.

Cookies might contain information such as login or registration information, online "shopping cart" information, user preferences, etc.

When a Server receives a request from a Browser that includes a Cookie, the Server is able to use the information stored in the Cookie. For example, the Server might customize what is sent back to the user, or keep a log of particular user's requests.

Cookies are usually set to expire after a predetermined amount of time and are usually saved in memory until the Browser software is closed down, at which time they may be saved to disk if their "expire time" has not been reached.

Cookies **do not** read your hard drive and send your life story to the CIA, but they can be used to gather more information about a user than would be possible without them.

See Also: Browser , Server

Cyberpunk

Cyberpunk was originally a cultural sub-genre of science fiction taking place in a not-so-distant, dystopian, over-industrialized society. The term grew out of the work of William Gibson and Bruce Sterling and has evolved into a cultural label encompassing many different kinds of human, machine, and punk attitudes. It includes clothing and lifestyle choices as well.

See Also: Cyberspace

Cyberspace

Term originated by author William Gibson in his novel *Neuromancer* the word Cyberspace is currently used to describe the whole range of information resources available through computer networks.

Digerati

The digital version of literati, it is a reference to a vague cloud of people seen to be knowledgeable, hip, or otherwise in-the-know in regards to the digital revolution.

Domain Name

The unique name that identifies an Internet site. Domain Names always have 2 or more parts, separated by dots. The part on the left is the most specific, and the part on the right is the most general. A given machine may have more than one Domain Name but a given Domain Name points to only one machine. For example, the domain names:

matisse.net
mail.matisse.net
workshop.matisse.net

can all refer to the same machine, but each domain name can refer to no more than one machine.

Usually, all of the machines on a given *Network* will have the same thing as the right-hand portion of their Domain Names (**matisse.net** in the examples above). It is also possible for a Domain Name to exist but not be connected to an actual machine. This is often done so that a group or business can have an Internet e-mail address without having to establish a real Internet site. In these cases, some real Internet machine must handle the mail on behalf of the listed Domain Name.

See Also: IP Number

E-mail

(Electronic Mail) -- Messages, usually text, sent from one person to another via computer. E-mail can also be sent automatically to a large number of addresses

(*Mailing List*).

See Also: Listserv , Maillist

Ethernet

A very common method of networking computers in a *LAN*. Ethernet will handle about 10,000,000 bits-per-second and can be used with almost any kind of computer.

See Also: Bandwidth , LAN

FAQ

(Frequently Asked Questions) -- FAQs are documents that list and answer the most common questions on a particular subject. There are hundreds of FAQs on subjects as diverse as Pet Grooming and Cryptography. FAQs are usually written by people who have tired of answering the same question over and over.

FDDI

(Fiber Distributed Data Interface) -- A standard for transmitting data on optical fiber cables at a rate of around 100,000,000 bits-per-second (10 times as fast as *Ethernet*, about twice as fast as *T-3*).

See Also: Bandwidth , Ethernet , T-1 , T-3

Finger

An Internet software tool for locating people on other Internet sites. Finger is also sometimes used to give access to non-personal information, but the most common use is to see if a person has an account at a particular Internet site. Many sites do not allow incoming Finger requests, but many do.

Fire Wall

A combination of hardware and software that separates a *LAN* into two or more parts for security purposes.

See Also: Network , LAN

Flame

Originally, flame meant to carry forth in a passionate manner in the spirit of honorable debate. Flames most often involved the use of flowery language and flaming well was an art form. More recently flame has come to refer to any kind of derogatory comment no matter how witless or crude.

See Also: Flame War

Flame War

When an online discussion degenerates into a series of personal attacks against the debators, rather than discussion of their positions. A heated exchange.

See Also: Flame

FTP

(File Transfer Protocol) -- A very common method of moving files between two Internet sites. FTP is a special way to *login* to another Internet site for the purposes of retrieving and/or sending files. There are many Internet sites that have established publicly accessible repositories of material that can be obtained using FTP, by logging in using the account name anonymous, thus these sites are called anonymous ftp servers.

Gateway

The technical meaning is a hardware or software set-up that translates between two dissimilar protocols, for example Prodigy has a gateway that translates between its internal, proprietary e-mail format and Internet e-mail format. Another, sloppier meaning of gateway is to describe any mechanism for providing access to another system, e.g. AOL might be called a gateway to the Internet.

Gopher

A widely successful method of making menus of material available over the Internet. Gopher is a *Client* and *Server* style program, which requires that the user have a Gopher *Client* program. Although Gopher spread rapidly across the globe in only a couple of years, it has been largely supplanted by Hypertext, also known as *WWW (World Wide Web)*. There are still thousands of Gopher *Servers* on the Internet and we can expect they will remain for a while.

See Also: Client , Server , WWW , Hypertext

Home Page (or Homepage)

Several meanings. Originally, the *web* page that your *browser* is set to use when it starts up. The more common meaning refers to the main web page for a business, organization, person or simply the main page out of a collection of web pages, e.g. "Check out so-and-so's new Home Page."

Another sloppier use of the term refers to practically any web page as a "homepage," e.g. "That web site has 65 homepages and none of them are interesting."

See Also: Browser , Web

Host

Any computer on a *network* that is a repository for services available to other computers on the *network*. It is quite common to have one host machine provide

several services, such as *WWW* and *USENET*.

See Also: Node , Network

HTML

(HyperText Markup Language) -- The coding language used to create *Hypertext* documents for use on the *World Wide Web*. HTML looks a lot like old-fashioned typesetting code, where you surround a block of text with codes that indicate how it should appear, additionally, in HTML you can specify that a block of text, or a word, is linked to another file on the Internet. HTML files are meant to be viewed using a *World Wide Web Client* Program, such as *Netscape* or *Mosaic*.

See Also: Client , Server , WWW

HTTP

(HyperText Transport Protocol) -- The protocol for moving *hypertext* files across the *Internet*. Requires a HTTP *client* program on one end, and an HTTP *server* program on the other end. HTTP is the most important protocol used in the *World Wide Web (WWW)*.

See Also: Client , Server , WWW

Hypertext

Generally, any text that contains links to other documents - words or phrases in the document that can be chosen by a reader and which cause another document to be retrieved and displayed.

IMHO

(In My Humble Opinion) -- A shorthand appended to a comment written in an online forum, IMHO indicates that the writer is aware that they are expressing a debatable view, probably on a subject already under discussion. One of may such shorthands in common use online, especially in discussion forums.

See Also: TTFN , BTW

Internet

(**Upper case I**) The vast collection of inter-connected networks that all use the TCP/IP protocols and that evolved from the *ARPANET* of the late 60's and early 70's. The Internet now (July 1995) connects roughly 60,000 independent networks into a vast global *internet*.

See Also: internet

internet

(**Lower case i**) Any time you connect 2 or more *networks* together, you have an

internet - as in inter-national or inter-state.

See Also: Internet , Network

Intranet

A private *network* inside a company or organization that uses the same kinds of software that you would find on the public *Internet*, but that is only for internal use.

As the Internet has become more popular many of the tools used on the Internet are being used in private networks, for example, many companies have web servers that are available only to employees.

Note that an Intranet may not actually be an internet -- it may simply be a network.

See Also: internet , Internet , Network

IP Number

Sometimes called a dotted quad. A unique number consisting of 4 parts separated by dots, e.g.

165.113.245.2

Every machine that is on the Internet has a unique IP number - if a machine does not have an IP number, it is not really on the Internet. Most machines also have one or more *Domain Names* that are easier for people to remember.

See Also: Domain Name , Internet

IRC

(Internet Relay Chat) -- Basically a huge multi-user live chat facility. There are a number of major IRC *servers* around the world which are linked to each other. Anyone can create a channel and anything that anyone types in a given channel is seen by all others in the channel. Private channels can (and are) created for multi-person conference calls.

ISDN

(Integrated Services Digital Network) -- Basically a way to move more data over existing regular phone lines. ISDN is rapidly becoming available to much of the USA and in most markets it is priced very comparably to standard analog phone circuits. It can provide speeds of roughly 128,000 bits-per-second over regular phone lines. In practice, most people will be limited to 56,000 or 64,000 bits-per-second.

ISP

(Internet Service Provider) -- An institution that provides access to the Internet in some form, usually for money.

See Also: Internet

Java

Java is a new programming language invented by Sun Microsystems that is specifically designed for writing programs that can be safely downloaded to your computer through the Internet and immediately run without fear of viruses or other harm to your computer or files. Using small Java programs (called "Applets"), Web pages can include functions such as animations, calculators, and other fancy tricks.

We can expect to see a huge variety of features added to the Web using Java, since you can write a Java program to do almost anything a regular computer program can do, and then include that Java program in a Web page.

Kilobyte

A thousand bytes. Actually, usually 1024 (2^10) bytes.

See Also: Byte , Bit

LAN

(Local Area Network) -- A computer network limited to the immediate area, usually the same building or floor of a building.

See Also: Ethernet

Leased-line

Refers to a phone line that is rented for exclusive 24-hour, 7 -days-a-week use from your location to another location. The highest speed data connections require a leased line.

See Also: 56k Line , T-1 , T-3

Listserv

The most common kind of *maillist*, Listservs originated on *BITNET* but they are now common on the *Internet*.

See Also: BITNET , E-mail , Maillist

Login

Noun or a verb. Noun: The account name used to gain access to a computer system. Not a secret (contrast with *Password*).
Verb: The act of entering into a computer system, e.g. *Login to the WELL and then go to the GBN conference.*

See Also: Password

Maillist

(**or Mailing List**) A (usually automated) system that allows people to send *e-mail* to one address, whereupon their message is copied and sent to all of the other subscribers to the maillist. In this way, people who have many different kinds of e-mail access can participate in discussions together.

Megabyte

A million *bytes*. A thousand *kilobytes*.

See Also: Byte , Bit , Kilobyte

MIME

(Multipurpose Internet Mail Extensions) -- The standard for attaching non-text files to standard Internet mail messages. Non-text files include graphics, spreadsheets, formatted word-processor documents, sound files, etc.

An email program is said to be MIME Compliant if it can both send and receive files using the MIME standard.

When non-text files are sent using the MIME standard they are converted (encoded) into text - although the resulting text is not really readable.

Generally speaking the MIME standard is a way of specifying both the type of file being sent (e.g. a Quicktime™ video file), and the method that should be used to turn it back into its original form.

Besides email software, the MIME standard is also universally used by Web *Servers* to identify the files they are sending to Web *Clients*, in this way new file formats can be accommodated simply by updating the Browsers' list of pairs of MIME-Types and appropriate software for handling each type.

See Also: Browser , Client , Server , Binhex , UUENCODE

Modem

(MOdulator, DEModulator) -- A device that you connect to your computer and to a phone line, that allows the computer to talk to other computers through the phone system. Basically, modems do for computers what a telephone does for humans.

MOO

(Mud, Object Oriented) -- One of several kinds of multi-user role-playing environments, so far only text-based.

See Also: MUD , MUSE

Mosaic

The first *WWW browser* that was available for the Macintosh, Windows, and UNIX all with the same interface. Mosaic really started the popularity of the Web. The source-code to Mosaic has been licensed by several companies and there are several other pieces of software as good or better than Mosaic, most notably, Netscape.

See Also: Browser , Client , WWW

MUD

(Multi-User Dungeon or Dimension) -- A (usually text-based) multi-user simulation environment. Some are purely for fun and flirting, others are used for serious software development, or education purposes and all that lies in between. A significant feature of most MUDs is that users can create things that stay after they leave and which other users can interact with in their absence, thus allowing a world to be built gradually and collectively.

See Also: MOO , MUSE

MUSE

(Multi-User Simulated Environment) -- One kind of MUD - usually with little or no violence.

See Also: MOO , MUD

Netiquette

The etiquette on the *Internet*.

See Also: Internet

Netizen

Derived from the term citizen, referring to a citizen of the *Internet*, or someone who uses networked resources. The term connotes civic responsibility and participation.

See Also: Internet

Netscape

A *WWW Browser* and the name of a company. The Netscape (tm) browser was originally based on the *Mosaic* program developed at the National Center for Supercomputing Applications (NCSA).

Netscape has grown in features rapidly and is widely recognized as the best and most popular web browser. Netscape corporation also produces web *server* software.

Netscape provided major improvements in speed and interface over other browsers.

and has also engendered debate by creating new elements for the *HTML* language used by Web pages -- but the Netscape extensions to HTML are not universally supported.

The main author of Netscape, Mark Andreessen, was hired away from the NCSA by Jim Clark, and they founded a company called Mosaic Communications and soon changed the name to Netscape Communications Corporation.

See Also: Browser , Mosaic , Server , WWW

Network

Any time you connect 2 or more computers together so that they can share resources, you have a computer network. Connect 2 or more networks together and you have an *internet*.

See Also: internet , Internet , Intranet

Newsgroup

The name for discussion groups on *USENET*.

See Also: USENET

NIC

(Networked Information Center) -- Generally, any office that handles information for a network. The most famous of these on the Internet is the InterNIC, which is where new domain names are registered.

Node

Any single computer connected to a *network*.

See Also: Network , Internet , internet

Packet Switching

The method used to move data around on the *Internet*. In packet switching, all the data coming out of a machine is broken up into chunks, each chunk has the address of where it came from and where it is going. This enables chunks of data from many different sources to co-mingle on the same lines, and be sorted and directed to different routes by special machines along the way. This way many people can use the same lines at the same time.

Password

A code used to gain access to a locked system. Good passwords contain letters and non-letters and are not simple combinations such as *virtue7*. A good password might

be:

Hot$1-6

See Also: Login

POP

Two commonly used meanings: Point of Presence and Post Office Protocol. A Point of Presence usually means a city or location where a network can be connected to, often with dialup phone lines. So if an Internet company says they will soon have a POP in Belgrade, it means that they will soon have a local phone number in Belgrade and/or a place where leased lines can connect to their network. A second meaning, Post Office Protocol refers to the way e-mail software such as Eudora gets mail from a mail server. When you obtain a SLIP, PPP, or shell account you almost always get a POP account with it, and it is this POP account that you tell your e-mail software to use to get your mail.

See Also: SLIP , PPP

Port

3 meanings. First and most generally, a place where information goes into or out of a computer, or both. E.g. the serial port on a personal computer is where a *modem* would be connected.

On the Internet port often refers to a number that is part of a *URL*, appearing after a colon (:) right after the *domain name*. Every service on an Internet *server* listens on a particular port number on that server. Most services have standard port numbers, e.g. Web servers normally listen on port 80. Services can also listen on non-standard ports, in which case the port number must be specified in a URL when accessing the server, so you might see a URL of the form:

gopher://peg.cwis.uci.edu:7000/

shows a gopher server running on a non-standard port (the standard gopher port is 70).
Finally, port also refers to translating a piece of software to bring it from one type of computer system to another, e.g. to translate a Windows program so that is will run on a Macintosh.

See Also: Domain Name , Server , URL

Posting

A single message entered into a network communications system.

E.g. A single message posted to a *newsgroup* or message board.

See Also: Newsgroup

PPP

(Point to Point Protocol) -- Most well known as a protocol that allows a computer to use a regular telephone line and a *modem* to make *TCP/IP* connections and thus be really and truly on the *Internet*.

See Also: IP Number , Internet , SLIP , TCP/IP

RFC

(Request For Comments) -- The name of the result and the process for creating a standard on the *Internet*. New standards are proposed and published on line, as a Request For Comments. The Internet Engineering Task Force is a consensus-building body that facilitates discussion, and eventually a new standard is established, but the reference number/name for the standard retains the acronym RFC, e.g. the official standard for *e-mail* is RFC 822.

Router

A special-purpose computer (or software package) that handles the connection between 2 or more *networks*. Routers spend all their time looking at the destination addresses of the *packets* passing through them and deciding which route to send them on.

See Also: Network , Packet Switching

Security Certificate

A chunk of information (often stored as a text file) that is used by the *SSL* protocol to establish a secure connection.

Security Certificates contain information about who it belongs to, who it was issued by, a unique serial number or other unique identification, valid dates, and an encrypted "fingerprint" that can be used to verify the contents of the certificate.

In order for an SSL connection to be created both sides must have a valid Security Certificate.

See Also: Certificate Authority , SSL

Server

A computer, or a software package, that provides a specific kind of service to *client* software running on other computers. The term can refer to a particular piece of software, such as a *WWW* server, or to the machine on which the software is running, e.g.Our mail server is down today, that's why e-mail isn't getting out. A single server machine could have several different server software packages running on it, thus

providing many different servers to *clients* on the *network*.

See Also: Client , Network

SLIP

(Serial Line Internet Protocol) -- A standard for using a regular telephone line (a serial line) and a *modem* to connect a computer as a real *Internet* site. SLIP is gradually being replaced by *PPP*.

See Also: Internet , PPP

SMDS

(Switched Multimegabit Data Service) -- A new standard for very high-speed data transfer.

SNMP

(Simple Network Management Protocol) -- A set of standards for communication with devices connected to a TCP/IP *network*. Examples of these devices include *routers*, hubs, and switches.

A device is said to be "SNMP compatible" if it can be monitored and/or controlled using SNMP messages. SNMP messages are known as "PDU's" - Protocol Data Units.

Devices that are SNMP compatible contain SNMP "agent" software to receive, send, and act upon SNMP messages.

Software for managing devices via SNMP are available for every kind of commonly used computer and are often bundled along with the device they are designed to manage. Some SNMP software is designed to handle a wide variety of devices.

See Also: Network , Router

Spam (or Spamming)

An inappropriate attempt to use a *mailing list*, or *USENET* or other networked communications facility as if it was a broadcast medium (which it is not) by sending the same message to a large number of people who didn't ask for it. The term probably comes from a famous Monty Python skit which featured the word spam repeated over and over. The term may also have come from someone's low opinion of the food product with the same name, which is generally perceived as a generic content-free waste of resources. (Spam is a registered trademark of Hormel Corporation, for its processed meat product.)

E.g. Mary spammed 50 USENET groups by posting the same message to each.

See Also: Maillist , USENET

SQL

(Structured Query Language) -- A specialized programming language for sending queries to databases. Most industrial-strength and many smaller database applications can be addressed using SQL. Each specific application will have its own version of SQL implementing features unique to that application, but all SQL-capable databases support a common subset of SQL.

SSL

(Secure Sockets Layer) -- A protocol designed by Netscape Communications to enable encrypted, authenticated communications across the Internet.

SSL used mostly (but not exclusively) in communications between web *browsers* and web *servers*. *URL*'s that begin with "https" indicate that an SSL connection will be used.

SSL provides 3 important things: Privacy, Authentication, and Message Integrity.

In an SSL connection each side of the connection must have a *Security Certificate*, which each side's software sends to the other. Each side then encrypts what it sends using information from both its own and the other side's Certificate, ensuring that only the intended recipient can de-crypt it, and that the other side can be sure the data came from the place it claims to have come from, and that the message has not been tampered with.

See Also: Browser , Server , Security Certificate , URL

Sysop

(System Operator) -- Anyone responsible for the physical operations of a computer system or network resource. A System Administrator decides how often backups and maintenance should be performed and the System Operator performs those tasks.

T-1

A *leased-line* connection capable of carrying data at 1,544,000 *bits*-per-second. At maximum theoretical capacity, a T-1 line could move a *megabyte* in less than 10 seconds. That is still not fast enough for full-screen, full-motion video, for which you need at least 10,000,000 bits-per-second. T-1 is the fastest speed commonly used to connect *networks* to the *Internet*.

See Also: 56k Line , Bandwidth , Bit , Byte , Ethernet , T-3

T-3

A *leased-line* connection capable of carrying data at 44,736,000 bits-per-second. This is more than enough to do full-screen, full-motion video.

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See Also: 56k Line , Bandwidth , Bit , Byte , Ethernet , T-1

TCP/IP

(Transmission Control Protocol/Internet Protocol) -- This is the suite of protocols that defines the *Internet*. Originally designed for the *UNIX* operating system, TCP/IP software is now available for every major kind of computer operating system. To be truly on the *Internet*, your computer must have TCP/IP software.

See Also: IP Number , Internet , UNIX

Telnet

The command and program used to *login* from one *Internet* site to another. The telnet command/program gets you to the login: prompt of another *host*.

Terminal

A device that allows you to send commands to a computer somewhere else. At a minimum, this usually means a keyboard and a display screen and some simple circuitry. Usually you will use terminal software in a personal computer - the software pretends to be (emulates) a physical terminal and allows you to type commands to a computer somewhere else.

Terminal Server

A special purpose computer that has places to plug in many *modems* on one side, and a connection to a *LAN* or *host* machine on the other side. Thus the terminal server does the work of answering the calls and passes the connections on to the appropriate *node*. Most terminal servers can provide *PPP* or *SLIP* services if connected to the *Internet*.

See Also: LAN , Modem , Host , Node , PPP , SLIP

TTFN

(Ta Ta For Now) -- A shorthand appended to a comment written in an online forum.

See Also: IMHO , BTW

UNIX

A computer operating system (the basic software running on a computer, underneath things like word processors and spreadsheets). UNIX is designed to be used by many people at the same time (it is multi-user) and has *TCP/IP* built-in. It is the most common operating system for *servers* on the *Internet*.

URL

(Uniform Resource Locator) -- The standard way to give the address of any resource on the Internet that is part of the World Wide Web (WWW). A URL looks like this:

http://www.matisse.net/seminars.html
or telnet://well.sf.ca.us
or news:new.newusers.questions
etc.

The most common way to use a URL is to enter into a WWW browser program, such as Netscape, or Lynx.

See Also: Browser , WWW

USENET

A world-wide system of discussion groups, with comments passed among hundreds of thousands of machines. Not all USENET machines are on the *Internet*, maybe half. USENET is completely decentralized, with over 10,000 discussion areas, called *newsgroups*.

See Also: Newsgroup

UUENCODE

(Unix to Unix Encoding) -- A method for converting files from *Binary* to *ASCII* (text) so that they can be sent across the Internet via *e-mail*.

See Also: Binhex , MIME

Veronica

(Very Easy Rodent Oriented Net-wide Index to Computerized Archives) -- Developed at the University of Nevada, Veronica is a constantly updated database of the names of almost every menu item on thousands of *gopher* servers. The Veronica database can be searched from most major *gopher* menus.

See Also: Gopher

WAIS

(Wide Area Information Servers) -- A commercial software package that allows the indexing of huge quantities of information, and then making those indices searchable across *networks* such as the *Internet*. A prominent feature of WAIS is that the search results are ranked (scored) according to how relevant the hits are, and that subsequent searches can find more stuff like that last batch and thus refine the search process.

WAN

(Wide Area Network) -- Any *internet* or *network* that covers an area larger than a single building or campus.

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See Also: Internet , internet , LAN , Network

Web

See Also: WWW

WWW

(World Wide Web) -- Two meanings - First, loosely used: the whole constellation of resources that can be accessed using *Gopher, FTP, HTTP, telnet, USENET, WAIS* and some other tools. Second, the universe of hypertext servers *(HTTP servers)* which are the servers that allow text, graphics, sound files, etc. to be mixed together.

See Also: Browser , FTP , Gopher , HTTP , Telnet , URL , WAIS

For more information contact Internet Literacy Consultants +1.415.575.1156
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